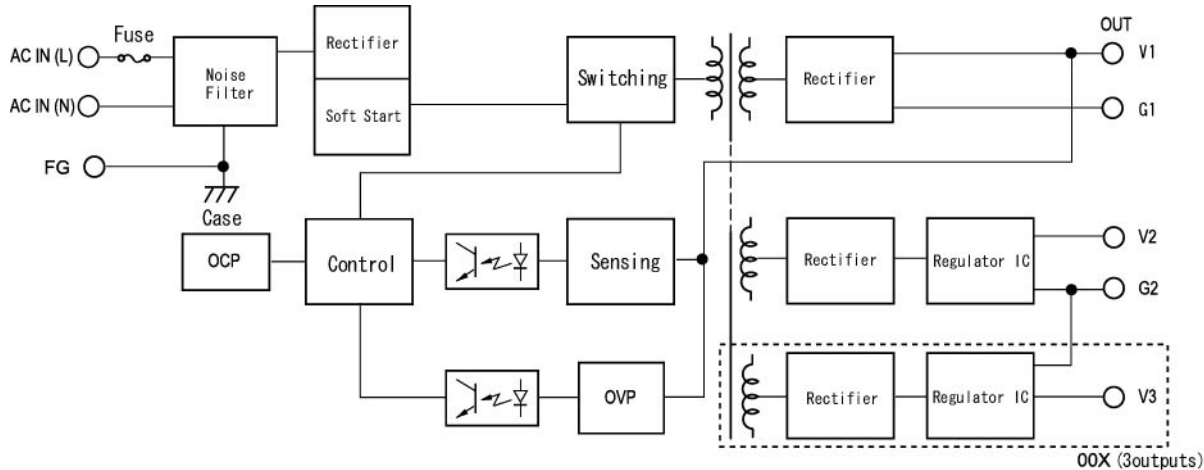


50 WATT AC-DC CONVERTER

2 CHANNELS WRB-FWX SERIES

Specifications WRB**FWX-U 50WATTS/2 OUTPUTS	Model				
	WRB21FWX-B-U	WRB22FWX-U	WRB23FWX-U	WRB24FWX-U	WRB24FWX-B-U
Input Characteristic					
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	76	77	77	72	75

BLOCK DIAGRAM

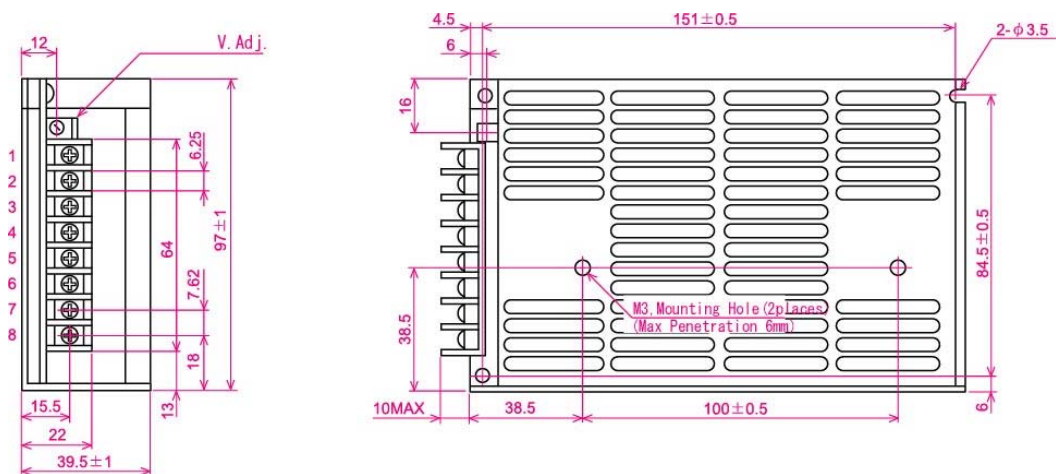


Output	Model									
WRB**FWX-U(50WATTS/2 OUTPUTS)	WRB21FWX-B-U	WRB22FWX-U	WRB23FWX-U	WRB24FWX-U	WRB24FWX-B-U	WRB24FWX-B-U	WRB24FWX-B-U	WRB24FWX-B-U	WRB24FWX-B-U	WRB24FWX-B-U
Output Voltage [V]	24	5	12	12	15	15	5	12	12	5
Output Current [A]	0.5-1.7	1.8	0.5-3.0	1.2	0.5-1.8	1.5	0.5-5.0	1.8	0.5-3.4	1.8
Voltage Adjust Range	V1:+3%/-0% of Rated Output Voltage(at no load within the input range) V2:fixed (at no load within the input range)									
Ripple and Noise[mVp-p](maximum) *3	290	100	170	170	200	200	100	170	170	100
Regulation										
a.Statistic Line Regulation [mV](maximum)	120	25	60	60	75	75	25	60	60	25
b. Statistic Load Regulation [mV](maximum)	240	50	120	120	150	150	50	120	120	50
c. Temperature Coefficient *4	0.03%/°C									
d. Drift[mV](maximum) *5	135	40	75	75	90	90	40	75	75	40
e.Dynamic Load 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	10mS(minimum) at 25°C and rated input/output									
Functions										
Over current Protection $\geq 110\%$ of Rated Output Current[A]	V1:Current Limiting with automatic recovery V2:by the regulator I.C's characteristics									
	1.87	-	3.3	-	1.98	-	5.5	-	3.74	-
Over voltage Protection $\geq 110\%$ of Rated Output Voltage[V]	V1:Output shutdown(to reset, leave 1minute after shut-off) V2:not available									
	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	-5 to +40°C /open frame type:-5 to +50°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 50M Ω (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 C-UL: CSA C22.2 No.234(Level 3) VDE EN60950, IEC950, VDE0805									
<input type="checkbox"/> Weight (typical)	460g/open frame type:440g									
<input type="checkbox"/> MTBF [H]	470,000									
<input type="checkbox"/> Switching Frequency[kHz](typical)	90									

Conditions:

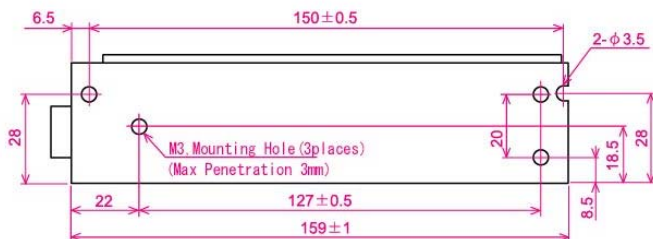
- *1 at cold start
- *2 at DC130V input, rated output and 25°C
- *3 measured by a bayonet probe at output connector at a 0 to 100MHz bandwidth
- *4 at -5 to +40°C/open frame type:-5 to +50°C
- *5 for 7hour period after 1hour warm-up at 25°C and rated input/output
- *6 when output current changed from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

DIAGRAM DIMENSION



Pin Assignments

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



OCP CURVE

