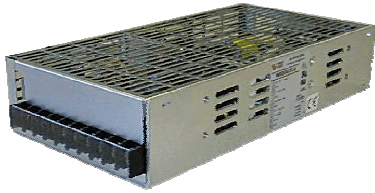




ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

AC/DC SWITCHING POWER SUPPLY
AC INPUT 85~132V/170~264
QUAD CHANNEL OUTPUT
110 WATTS



WRDQ-00X-U SERIES

DIMENSION: 48Wx230Lx115H

General Description

"WR"-Series AC/DC Switching power supplies are universal or auto-ranging input for world wide use. Output power from 15 to 600 Watts. Up to (4) outputs available. All models are approved to international safety standards.

Application

Input

Input Voltage:	AC115/230V
Input Voltage Range: *1	AC85~132V/170~264V (DC220-350V)
Input Current:	2.4A at AC115V/1.4A at AC230V
Frequency:	50/60Hz
Input Frequency Range:	47-440Hz
Phase:	Single
Inrush Current: *2	23A(max.) at AC115V 46A(max.) at AC230V
Leakage Current:	1mA(maximum) at 25°C (rated input/output and rated input frequency)

Features

1. Universal Input(85-264Vac) or auto-ranging input
2. Low EMI; EMI meets EN 55022/B, FCC/B Compact size
3. Universal input 85-264V
4. High efficiency & reliability
5. Output voltage adjustable
6. Over voltage protection
7. Safety: UL 1950, EN60950, CSA234 or 950 Approved
8. CE-marked acc. To LVD

Output Characteristic	Unit	WRDQ41X-U				WRDQ42X-U				WRDQ43X-U				WRDQ44X-U				WRDQ45X-U				WRDQ46X-U			
		V1	V2	V3	V4	V1	V2	V3	V4	V1	V2	V3	V4	V1	V2	V3	V4	V1	V2	V3	V4	V1	V2	V3	V4
Output Voltage	Vdc	5	5	+12	-12	5	+12	+12	-12	5	24	+12	-12	5	5	+15	-15	+5	+12	+15	-12	5	24	+15	-15
Output Current	A	1-12	6.0	1.2	1.2	1-12	4.2	1.2	1.2	1-12	2.1	1.2	1.2	1-12	6.0	1.0	1.0	1-12	4.2	1.0	1.0	1-12	2.1	1.2	1.2
Power [W]		110 (maximum)																							
Voltage Adjust Range	V	V1:+5%/-0% of Rated Output Voltage(at no load within the input range) V2:+/-5% of Rated Output Voltage(at no load within the input range) V3,V4:fixed with tolerance of +/-3%(at no load within the input range)																							
Ripple Noise(max)*4	mVpp	150	150	220	220	150	220	220	220	150	340	220	220	150	150	250	250	150	220	250	250	150	340	250	250
Rise up time	mS	500mS(maximum) at 25°C and rated input/output																							
Hold up time	mS	20mS(minimum) at 25°C and rated input/output																							
Regulation																									
a. Line Regulation	mV	25	25	60	60	25	60	60	60	25	120	60	60	25	25	75	75	25	60	75	75	25	120	75	75
b. Load Regulation	mV	50	50	240	240	50	120	240	240	50	240	240	240	50	50	300	300	50	120	300	300	50	240	300	300
c. Temperature Coefficient *5	°C	0.03%/°C																							
d. Drift(maximum) *6	mV	50	50	120	120	50	120	120	120	50	240	120	120	50	50	150	150	50	120	150	150	50	240	150	150
e. Dynamic Load Regulation (typ.) *7	mV	not specified																							
f. Recovery Time *7	mS	not specified																							

Efficiency *3	%	75				79				77				78				75			
----------------------	---	-----------	--	--	--	-----------	--	--	--	-----------	--	--	--	-----------	--	--	--	-----------	--	--	--

Conditions:

*1 Automatically selected at AC140V +/-2V

*2 at cold start

*3 at DC260V input and output of 110watt



ETA USA
16170 Vineyard Blvd. Suite 180, Morgan Hill, CA 95037
Phone: 1-800-ETA-POWER, (408) 778-2793 Fax: (408) 779-2753

Visit us at: www.eta-usa.com
email at: sales@eta-usa.com



ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

*4 measured by a probe at the end of a pair of 20cm long wires terminated with a 22uF electrolytic capacitor and a 0.1uF film capacitor in parallel at a 0 to 100MHz bandwidth

*6 for 7hour period after 1hour warm-up at 25°C and rated input/output

*7 when output current changed from 25% to 75% of rated output current rapidly at rated input

*8 safety approved at 25°C

*5 at -5 to +40°C/open frame type:-5 to +50°C Environmental Specification	
Operating Temperature	-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 100MΩ(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

Environmental Agencies

Line Conducted Noise	Built to meet VDE0871 Class B Built to meet VCCI Class B Built to meet FCC Part15-B Class B
Safety	UL: UL1950 C-UL: CSA C22.2 No.234(Level 3) VDE EN60950, IEC950, VDE0805
MTBF [H]	230000
Switching Frequency[kHz]	200 Fix.

Function/Protection

Over current Protection	V1,V2,V3:Current Limiting with automatic recovery V4:by the regulator I.C's characteristics Please refer to individual spec-sheet
Over voltage Protection (≥110% of Rated Output Voltage[V])	V1,V2:Output shutdown(to reset, leave 3 minutes after shut-off) V3,V4:not available 6 6 - - 6 14.4 - - 6 28.8 - - 6 6 - - 6 14.4 - - 6 28.8 - -
Remote Sense	not available
Remote On/Off	available
Power Fail Detection	available
Series Operation	not available
Parallel Operation	not available

Mechanical

Dimension [mm]	48Wx230Lx115H
Weight	1000g[unit without cover:930g]



ETA USA

16170 Vineyard Blvd. Suite 180, Morgan Hill, CA 95037

Phone: 1-800-ETA-POWER, (408) 778-2793 Fax: (408) 779-2753

Visit us at: www.eta-usa.com

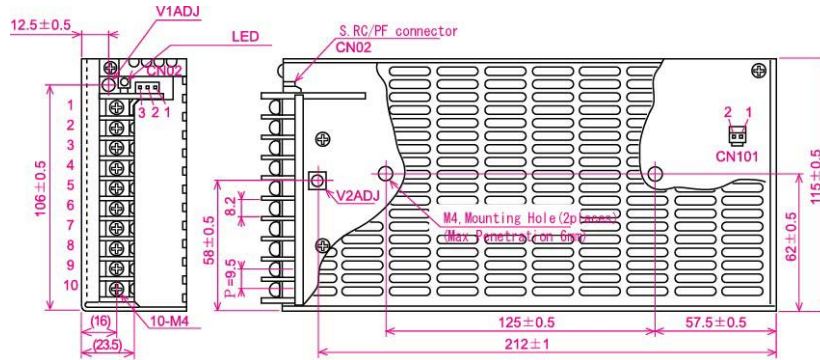
email at: sales@eta-usa.com



ETA-USA

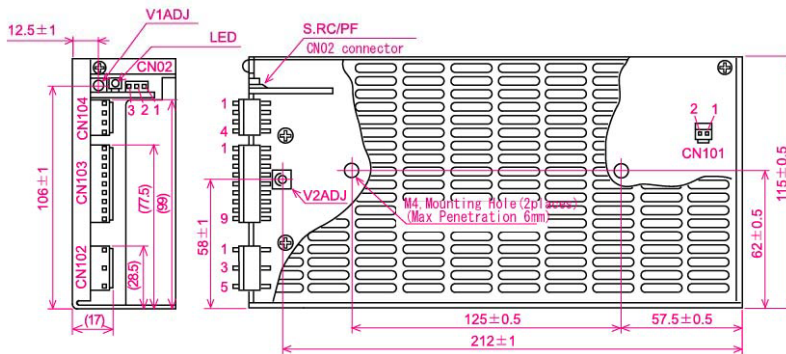
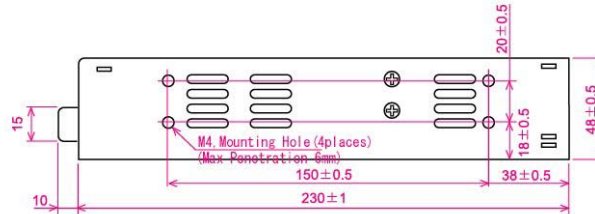
HIGH QUALITY SWITCHING POWER SUPPLIES

DIMENSION DIAGRAM (mm)



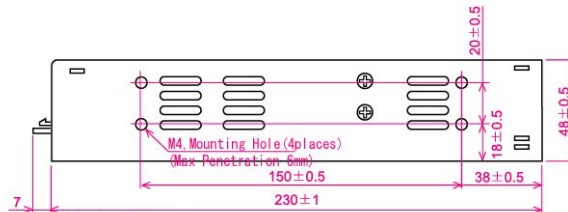
Pin Assignments

- 1 V1
- 2 G1
- 3 V2
- 4 G2
- 5 V3
- 6 G3
- 7 V4
- 8 FG
- 9 AC in(N)
- 10 AC in(L)



	Housing
CN101	VHR-2N
CN102	VHR-5N
CN103	VHR-9N
CN104	VHR-4N
CN02	EHR-3

Maker: JST



Pin Assignments

- INPUT CONNECT
- CN102
 - 1 FG
 - 2 NC
 - 3 AC in(N)
 - 4 NC
 - 5 AC in(L)

- OUTPUT CONNECT
- CN101
 - 1 Vcc
 - 2 RMC
 - CN103
 - 1 V2
 - 2 V2
 - 3 G2
 - 4 G2
 - 5 NC
 - 6 V3
 - 7 G3
 - 8 G3
 - 9 V4

- CN104
- 1 V1
 - 2 V1
 - 3 G1
 - 4 G1
- CN02
- 1 PF
 - 2 SRC
 - 3 SG



ETA USA

16170 Vineyard Blvd. Suite 180, Morgan Hill, CA 95037
 Phone: 1-800-ETA-POWER, (408) 778-2793 Fax: (408) 779-2753

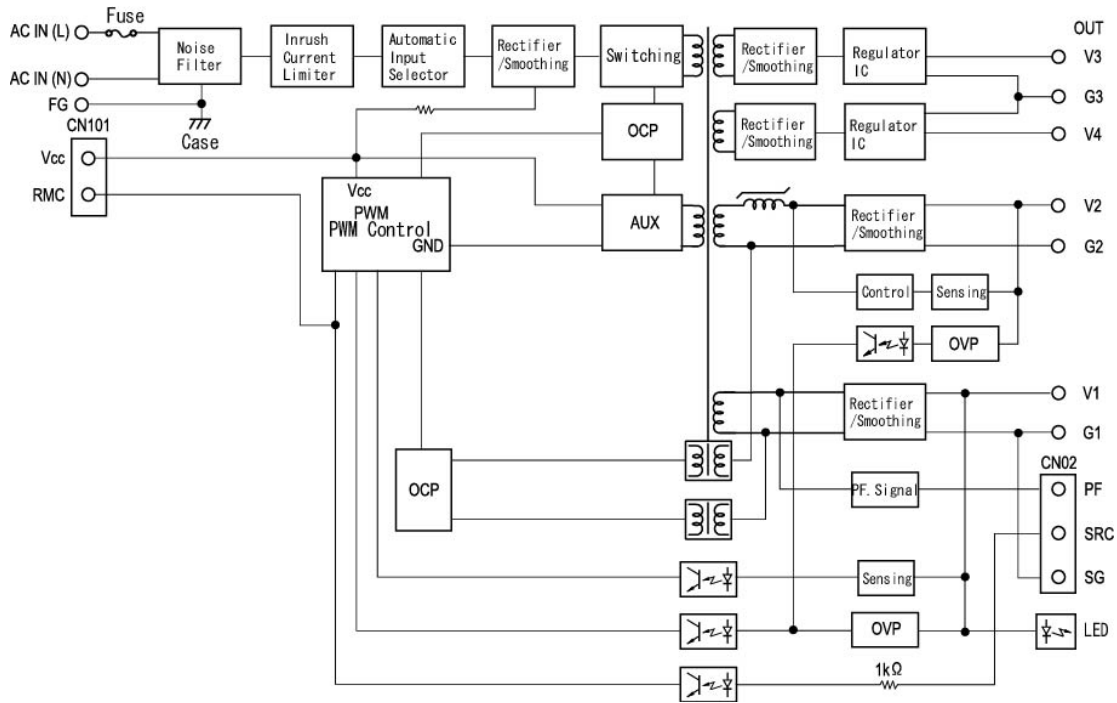
Visit us at: www.eta-usa.com
 email at: sales@eta-usa.com



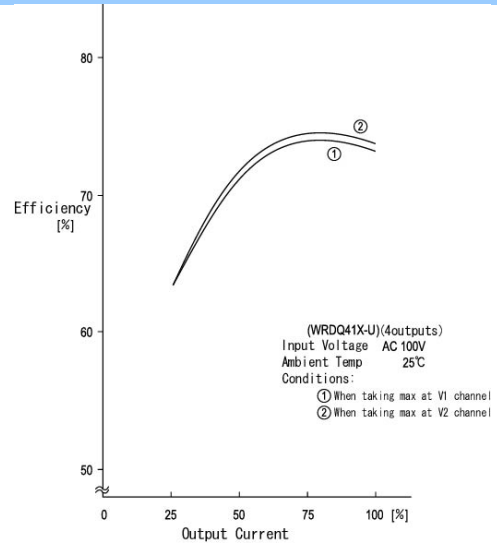
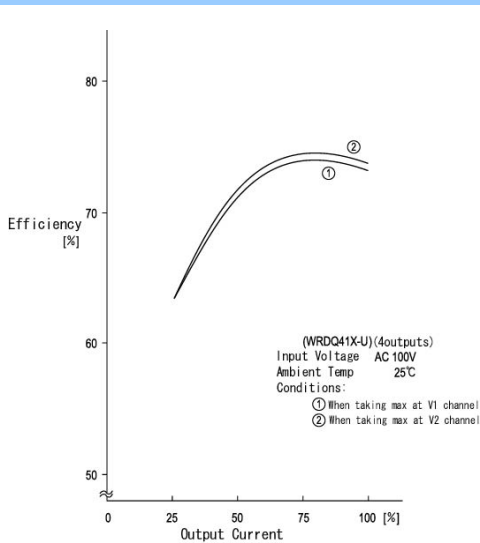
ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

BLOCK DIAGRAM



EFFICIENCY CURVE



ETA USA
16170 Vineyard Blvd. Suite 180, Morgan Hill, CA 95037
Phone: 1-800-ETA-POWER, (408) 778-2793 Fax: (408) 779-2753

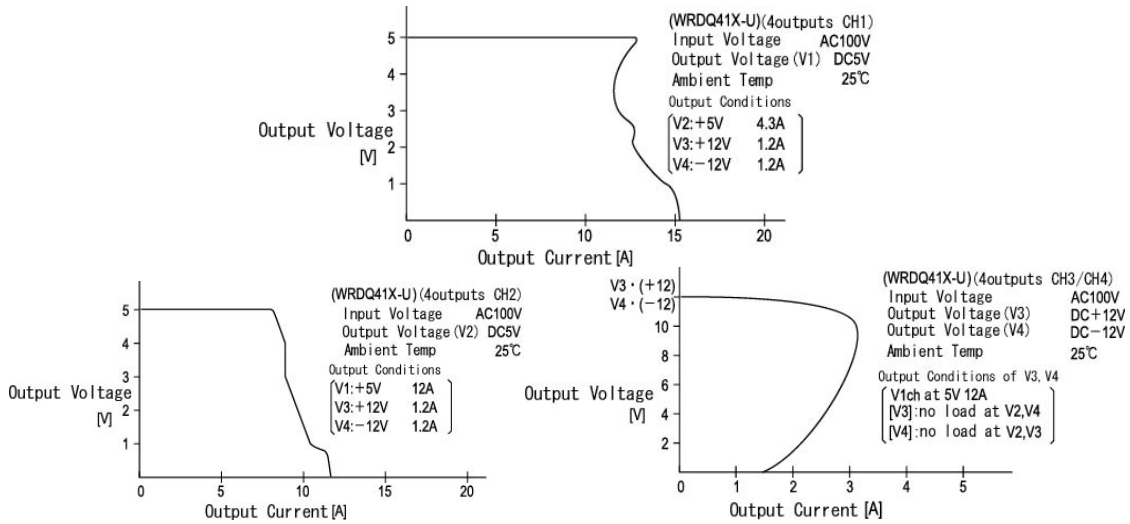
Visit us at: www.eta-usa.com
email at: sales@eta-usa.com



ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

OCP CURVE



ETA USA

16170 Vineyard Blvd. Suite 180, Morgan Hill, CA 95037
Phone: 1-800-ETA-POWER, (408) 778-2793 Fax: (408) 779-2753

Visit us at: www.eta-usa.com
email at: sales@eta-usa.com