

REVISIONS

REV	DESCRIPTION	DATE	ISSUED BY
-	ISSUE 1		/
A	REVISED OPERATING TEMP ON PAGE 4. OVP FOR 48V ON PAGE 2. REMOTE ON/OFF ON PAGE 2.	07/02/02	RJ
B	CHANGED CN4 ON PAGE 5	07/12/02	RJ
C	CHANGED D (MODELS – H & J ON PAGE 4	11/20/03	JC
D	REVISED NOTE D. FOR –H &J: SWITCHED WITH & WITHOUT COVER TEMPS	06/26/06	YS

FILE NAME: CAD1:MSWORD:PA211242.DOC	SCALE: NONE	REV: D	SH 1 OF 7
TITLE: OVS-U (UNIVERSAL INPUT) SERIES SPECIFICATION	DOCUMENT NUMBER: P-A2-11242		
TAMURA CORPORATION OF AMERICA 43352 BUSINESS PARK DRIVE • TEMECULA • CA • 92590 TEL: (951) 699-1270 • FAX: 9516769482	PREPARED BY:	K. BRENNAN	06/26/06
	ENGINEERING:	M. PITCHAI	06/26/06
	APPROVED:	Y. SEKIGUCHI	06/26/06
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A. Electrical Specifications

(1) AC Input Voltage Rating	AC100 - 230V, 50/60Hz (47 - 63Hz) AC90 - 264V -----E Series AC90 - 132VAC / AC180 - 264V -----F to J Series (Automatic voltage selection)												
DC Input Voltage Range	DC115 - 372V -----E Series DC230 - 372V -----F to J Series with JW1 open												
(2) Input Surge Current	35A MAX for E Series at nominal line (115/230V) cold start 30A MAX for F to J Series at nominal line (115/230V) cold start												
(3) DC Output Adjustment Range	± 10% MIN 24V output: 22.8V to 29.2V												
(4) Line Regulation	± 0.5% MAX under specified input range												
(5) Load Regulation	± 0.5% MAX from no load to full rated load												
(6) Output Ripple and Noise	<table><tr><td>3/5 - 15V output</td><td>75mVp-p MAX</td><td rowspan="3">} DC to 20MHz BW</td></tr><tr><td>24V output</td><td>120mVp-p MAX</td></tr><tr><td>28, 48V output</td><td>240mVp-p MAX</td></tr></table>	3/5 - 15V output	75mVp-p MAX	} DC to 20MHz BW	24V output	120mVp-p MAX	28, 48V output	240mVp-p MAX					
3/5 - 15V output	75mVp-p MAX	} DC to 20MHz BW											
24V output	120mVp-p MAX												
28, 48V output	240mVp-p MAX												
(7) Hold-up Time	20msec MIN under nominal line and rated load												
(8) Output Transient Response	1msec MAX over ±2% of rated voltage under 50 - 100% load change												
(9) Output Voltage Rise Time	100msec MAX, from 10% to 90% of rated output voltage												
(10) Efficiency	70% MIN at nominal line and rated load												
(11) Overload Protection	120% TYP of rated load, fold-back limiting type												
(12) OverVoltage Protection	<table><tr><td>3V output</td><td>3.8 - 4.6V</td></tr><tr><td>5V output</td><td>5.7 - 6.7V</td></tr><tr><td>12V output</td><td>14.25 - 15.75V</td></tr><tr><td>15V output</td><td>17.25 - 18.75V</td></tr><tr><td>24/28V output</td><td>31.0 - 34.5V</td></tr><tr><td>48V output</td><td>54.0 - 62.0V</td></tr></table>	3V output	3.8 - 4.6V	5V output	5.7 - 6.7V	12V output	14.25 - 15.75V	15V output	17.25 - 18.75V	24/28V output	31.0 - 34.5V	48V output	54.0 - 62.0V
3V output	3.8 - 4.6V												
5V output	5.7 - 6.7V												
12V output	14.25 - 15.75V												
15V output	17.25 - 18.75V												
24/28V output	31.0 - 34.5V												
48V output	54.0 - 62.0V												
(13) Leakage Current	0.75mA rms MAX												
(14) Overshoot	No overshoot during turn ON/OFF												
(15) Output Voltage Stability	± 0.1% MAX for 8 hours after 20 minute warm-up												
(16) Temperature Coefficient	±0.03% per deg. C MAX												
(17) Remote/Local Sensing	Built-in												
(18) Remote ON/OFF Control	Built-in F, G, H and J Series, 300uA MIN < 1V for inhibit, > 4.5V (or open) for ON												

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- 19) AC Power Fail Signal Built-in on 5V output models only, other voltages optional
Power Good Logic "0"
Power Fail Logic "1", 5msec MIN pulse width, output 4.5V $\pm$ 5%
- 20) Current Sharing Current sharing capability available by using CS terminal and external circuit
- 21) Surge Voltage Test Meets IEEE587 C62.41 test method with no damage to power supply
- 22) Withstand Voltage AC 3KV (Input - Output), AC 1.5KV (Input - Chassis ground)
- 23) Insulation Resistance 50Mohm MIN DC500V (Input - Output)

24) Part Number Description

Model No. **OVS - □□□ - U□**

Series Name _____ U: No cover (Standard)
UC: With cover (Option)

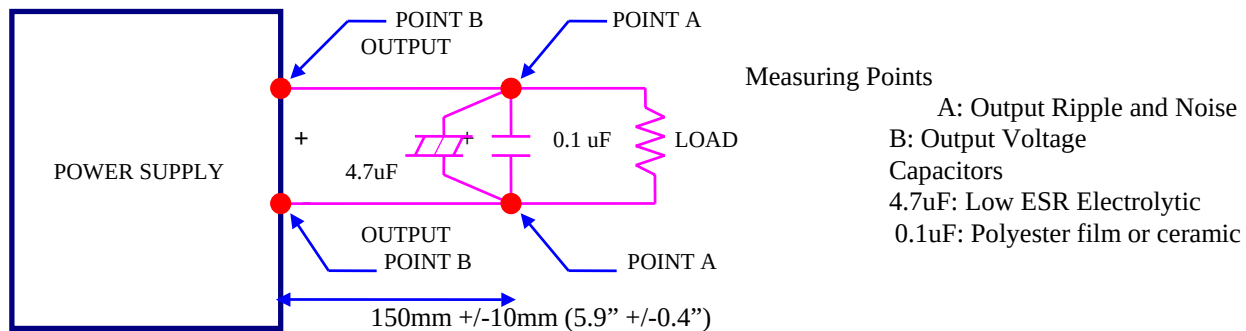
Output voltage _____ Case size

CASE SIZE	MODEL	VOLTS	AMPS
E	OVS-5E-UC	5	0-10
	OVS-12E-UC	12	0-5
	OVS-15E-UC	15	0-4
	OVS-24E-UC	24	0-2.5
	OVS-48E-UC	48	0-1.2
F	OVS-5F-UC	3.2 *	2-20 *
		5 *	0-20 *
	OVS-12F-UC	12	0-10
	OVS-15F-UC	15	0-8
	OVS-24F-UC	24 *	0-5 *
		28 *	0-3.8 *
G	OVS-48F-UC	48	0-2.3
	OVS-5G-UC	3.2 *	3-30 *
		5 *	0-30 *
	OVS-12G-UC	12	0-15
	OVS-15G-UC	15	0-12
	OVS-24G-UC	24 *	0-8 *
H		28 *	0-6 *
	OVS-48G-UC	48	0-3.7
	OVS-5H-UC	3.2 *	4.5-45 *
		5 *	0-45 *
	OVS-12H-UC	12	0-22
	OVS-15H-UC	15	0-18
J	OVS-24H-UC	24 *	0-12 *
		28 *	0-9.2 *
	OVS-48H-UC	48	0-5.5
	OVS-5J-UC	3.2 *	6-60 *
		5 *	0-60 *
	OVS-12J-UC	12	0-30
	OVS-15J-UC	15	0-25
	OVS-24J-UC	24 *	0-16 *
		28 *	0-12.2 *
	OVS-48J-UC	48	0-7.3

* INDICATES A DUAL RATING

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- Note 1. Output ripple and noise to be measured with a 4.7uF +0.1 uF film or ceramic capacitor measured at points A as shown below.
- Note 2. Output voltage to be measured at output terminals, Points B as shown below.
- Note 3. OVS-5*-U has a dual rating of 3.2V and 5V. The unit is shipped from the factory set to 5V.
To obtain 3.2V, the unit must be modified according to the instructions.
- Note 4. OVS-24*-U has a dual rating of 24V and 28V. The unit is shipped from the factory set to 24V.
To obtain 28V, customer must readjust the output voltage potentiometer.



B. Safety

Meets UL1950, C22.2 No. 234, EN60950, VDE0805

C. EMI

Meets FCC20780 Part 15J Class B

Class A	E, F Series
VDE 0871 Class B	G, H, J Series
Class A	E, F Series
VCC1 Class 2	G, H, J Series
Class 1	E, F Series
	G, H, J Series

Note 1. Models OVS-48E-UC and -48F-UC meet Class A for FCC and VDE and meet Class 1 with VCC1

D. Environmental

(1) Operating Temperature

MODELS –E, F & G:

0 to +40 deg. C with cover, 0 to +50 deg. C without cover*

In either case, the temperature at the center portion on the side of the chassis should be +60 deg. C MAX.

For operation above +40 with cover (+50 deg. C without cover) derate linearly to 50% load at +55 deg. C with cover (+65 deg. C without cover).

In either case, the temperature at the center portion on the side of the chassis should be +70 deg. C MAX.

* Ambient temperature to be measured at 1" above the main transformer.

MODELS –H & J:

0 to +40 deg. C with cover, 0 to +50 deg. C without cover*

In either case, the temperature at the center portion on the side of the chassis should be +60 deg. C MAX.

For operation above +40 deg. C without cover (+50 deg. C with cover) derate linearly to 50% load at +55 deg. C without cover (+65 deg. C with cover).

In either case, the temperature at the center portion on the side of the chassis should be +70 deg. C MAX.

*Ambient temperature to be measured at 1" above the main transformer

(2) Storage Temperature

-20 to +85 deg. C

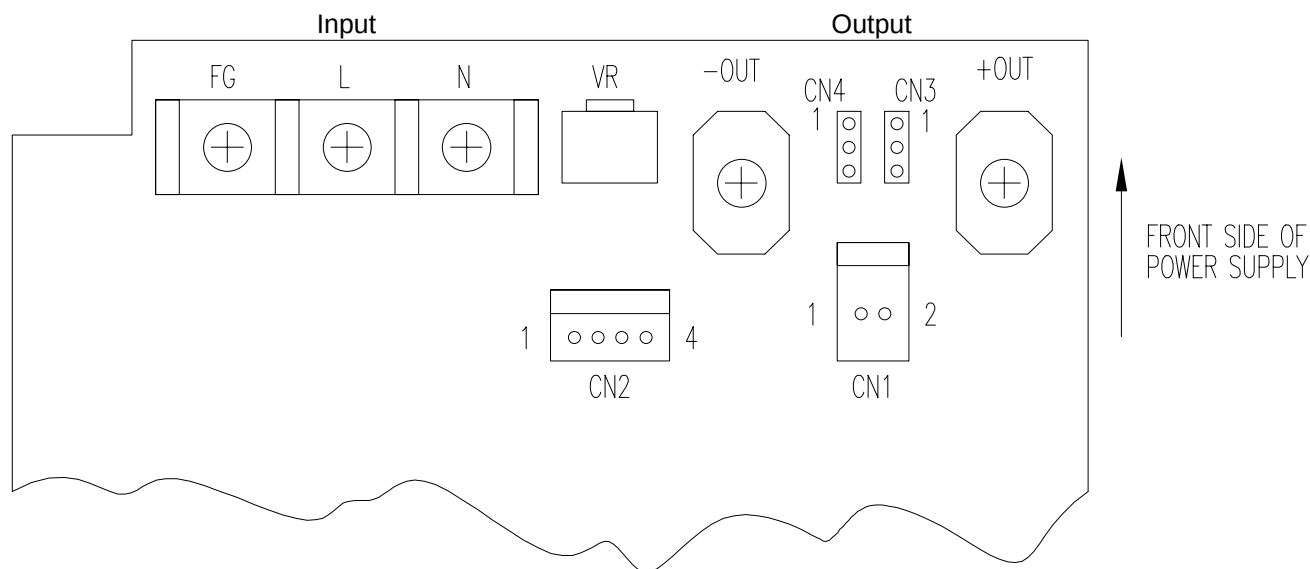
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- (3) Operating Humidity 10 - 90% RH, non condensing
- (4) Storage Humidity 10 - 95%, non condensing
- (5) Vibration 10 - 55Hz, 2G (All axis, 1 hour)
- (6) Shock 20msec, 20G (All axis, 3X ea.)

E. Power Factor Correction

Use Tamura Part Number PFC-500 as an external active filter power supply for OVS-E through J Series

F. Input and Output terminals



*I/O Terminal Screws: M4

CN1 (Remote sense) Pin Assignment

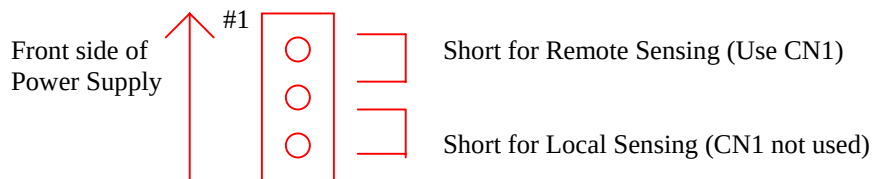
- #1 pin +Sense
- #2 pin -Sense

CN2 (Input / Output Signal) Pin Assignment

- #1 pin CS (Current sharing, external circuit required)
- #2 pin AC Power Fail signal output (+5V only, other voltages optional)
- #3 pin SG (Signal Ground)
- #4 pin Remote ON/OFF (not available on E Series)

CN3, CN4 Jumper Tip Position

- CN3 +OUT
- CN4 -OUT



CN1 Part No: 5273-02A/Molex

Mating Part No: 5195-02 or 5239-02/Molex

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CN2 Part No: 5045-03A/Molex ----E Series
 5045-04A/Molex ----F through J Series
Mating Part No: 5102-03 or 5051-03/Molex ---- E Series
 5012-04 or 5051-04/Molex ----F through J Series
CN3, 4 Part No: 5548-03A/Molex
Tip Part No: 90059-0013/Molex

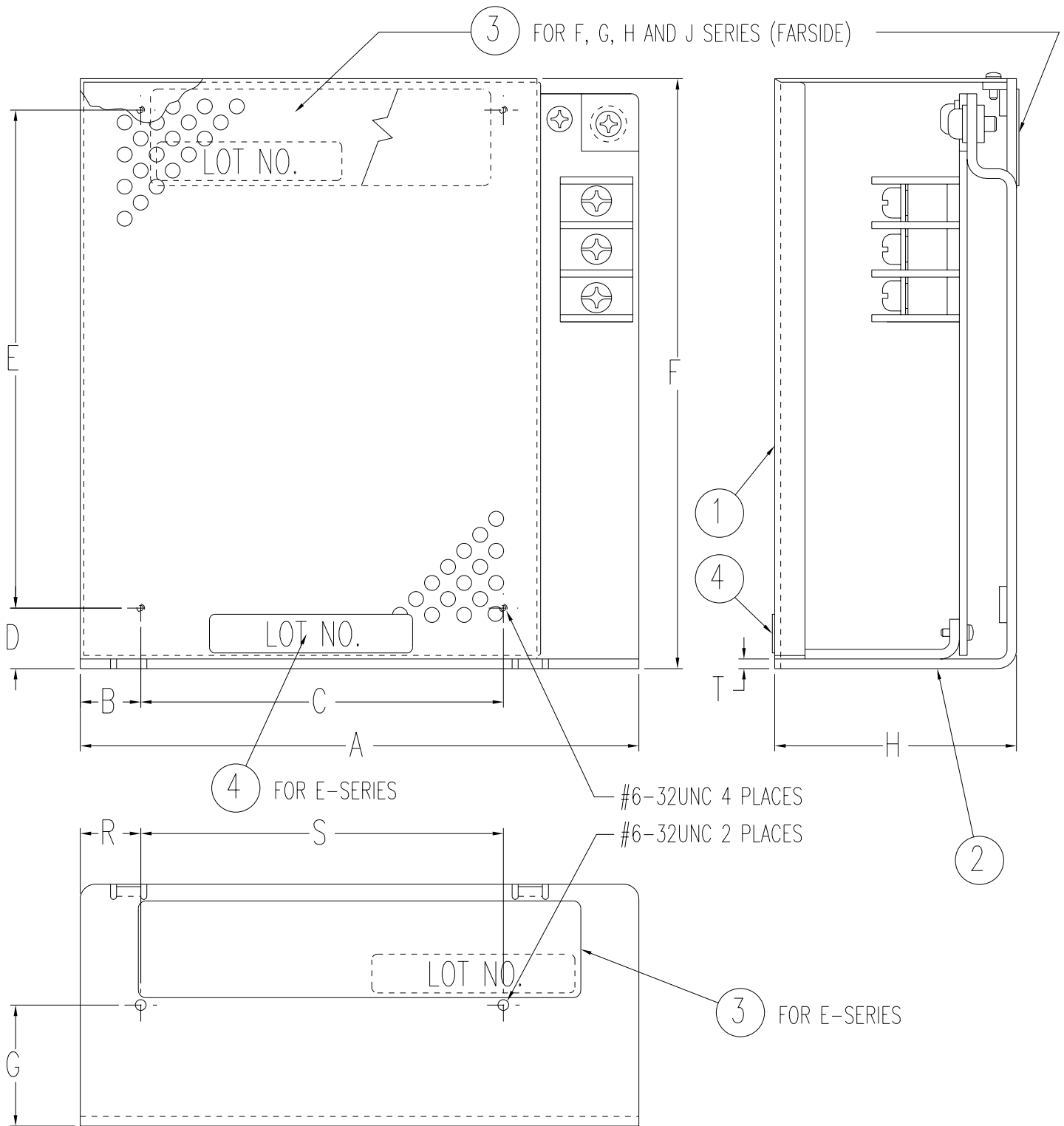
G. Mechanical Specifications dimensions shown in mm (inches).
 See sheet 7 for drawing representations

MODEL	A	B	C	D	E	F	G	H	R	S	T
OVS-E	117.3 (4.62)	12.7 (0.50)	76.29 (3.00)	12.7 (0.50)	104.6 (4.12)	124 (4.88)	25.4 (1.00)	50.8 (2.00)	12.7 (0.50)	76.2 (3.00)	2.00 (0.079)
OVS-F	180.3 (7.10)	38.1 (1.50)	114.3 (4.50)	12.7 (0.50)	104.6 (4.12)	124 (4.88)	30.2 (1.19)	60.2 (2.37)	38.1 (1.50)	114.3 (4.50)	2.00 (0.079)
OVS-G	218.4 (8.60)	12.7 (0.50)	177.8 (7.00)	12.7 (0.50)	104.6 (4.12)	124 (4.88)	30.2 (1.19)	60.2 (2.37)	12.7 (0.50)	177.8 (7.00)	2.00 (0.079)
OVS-H	269.2 (10.60)	12.7 (0.50)	228.6 (9.00)	12.7 (0.50)	104.6 (4.12)	124 (4.88)	33.3 (1.31)	66.0 (2.60)	12.7 (0.50)	228.6 (9.00)	3.00 (0.116)
OVS-J	304.8 (12.00)	12.7 (0.50)	254 (10.00)	12.7 (0.50)	104.6 (4.12)	124 (4.88)	34.8 (1.37)	69.9 (2.75)	12.7 (0.50)	279.4 (11.00)	3.00 (0.118)
TOLERANCES	±1.016 (±0.04)	±0.508 (±0.02)	±0.254 (±0.01)	±0.508 (±0.02)	±0.254 (±0.01)	±1.016 (±0.04)	±0.508 (±0.02)	±1.016 (±0.04)	±0.508 (±0.02)	±0.254 (±0.01)	N/A

Material List

ITEM #	PART NAME	QTY	MATERIAL
1	CHASSIS	1	ALUMINUM SHEET
2	COVER	1	ALUMINUM SHEET
3	LABEL	1	PAPER
4	LABEL	1	PAPER

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