

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	3/5 - 15V output 75mVp-p MAX 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	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)

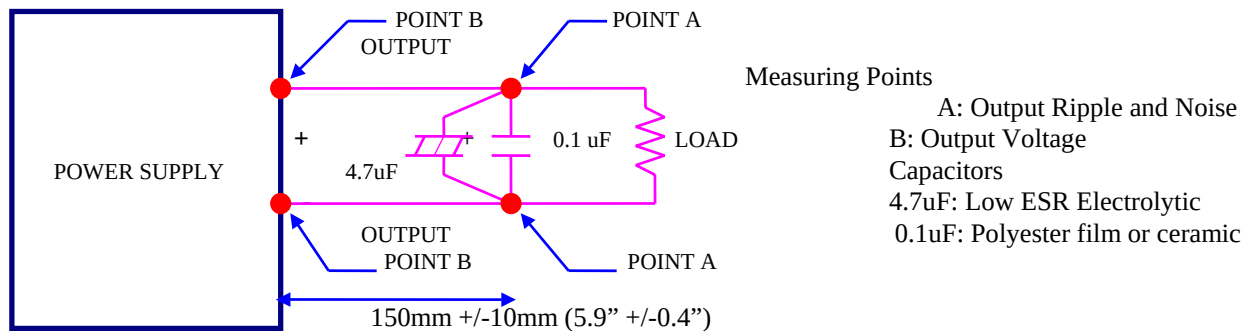
Output voltage _____ Case size

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

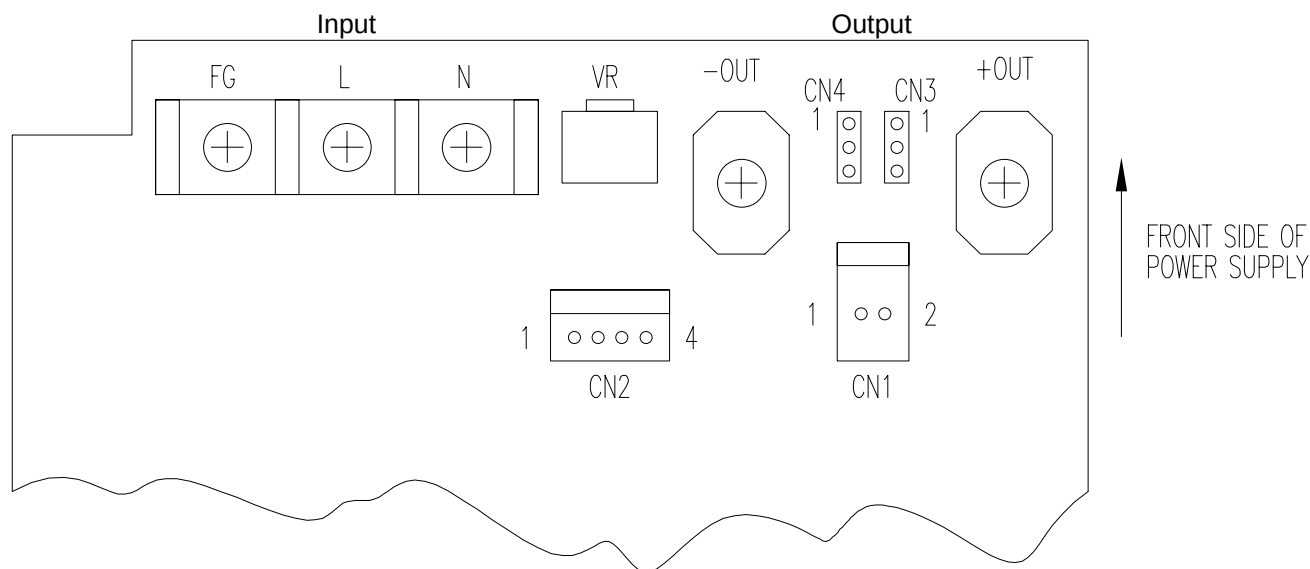
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- (3) Operating Humidity 10 - 90% RH, non condensing
- (4) Storage Humidity 10 - 95%, non condensing
- (5) Vibration 10 - 55Hz, 2G (All axis, 1 hour)
- (6) Shock 20msec, 20G (All axis, 3X ea.)

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

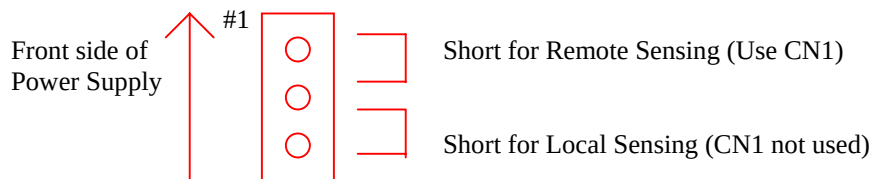
- #1 pin +Sense
- #2 pin -Sense

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

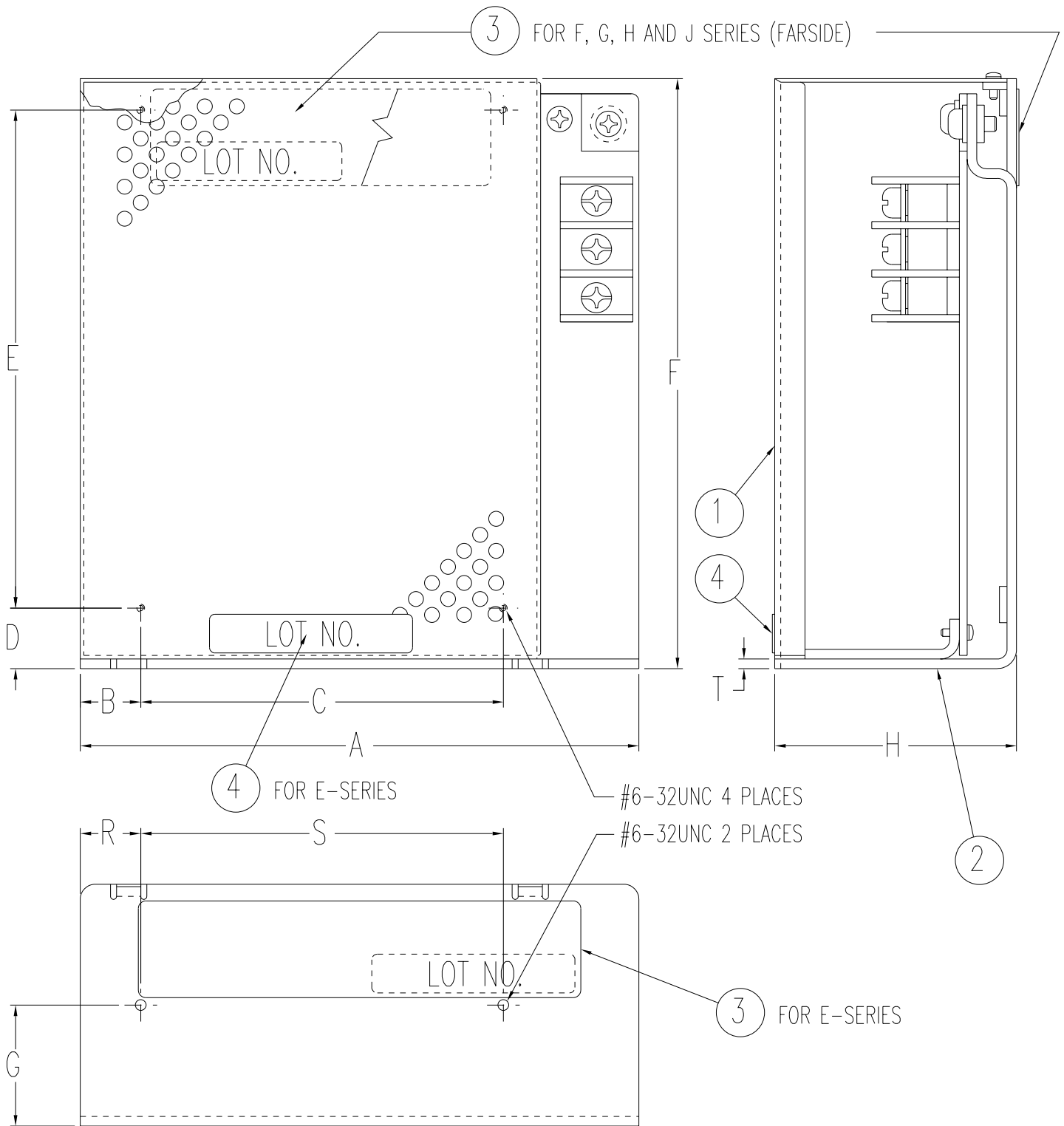
G. Mechanical Specifications dimensions shown in mm (inches).
 See sheet 7 for drawing representations

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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