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REVISIONS

REV	DESCRIPTION	DATE	ISSUED BY
-	ISSUE 1		/
A	REVISIED 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

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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 DC to 20MHz BW
(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

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 ±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

Output voltage

Case size

U: No cover (Standard)
UC: With cover (Option)

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 *
	OVS-48F-UC	48	0-2.3
G	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 *
		28 *	0-6 *
	OVS-48G-UC	48	0-3.7
H	OVS-5H-UC	3.2 *	4.5-45 *
		5 *	0-45 *
	OVS-12H-UC	12	0-22
	OVS-15H-UC	15	0-18
	OVS-24H-UC	24 *	0-12 *
		28 *	0-9.2 *
	OVS-48H-UC	48	0-5.5
J	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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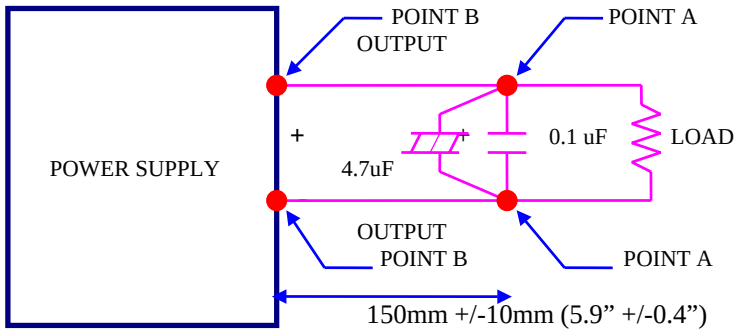
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Note 1. Output ripple and noise to be measured with a 4.7uF +0.1 uF film or ceramic capacitor measured at points A as shown below.

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.



Measuring Points
A: Output Ripple and Noise
B: Output Voltage
Capacitors
4.7uF: Low ESR Electrolytic
0.1uF: Polyester film or ceramic

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

C. EMI

Meets FCC20780 Part 15J	Class B	E, F Series
	Class A	G, H, J Series
VDE 0871	Class B	E, F Series
	Class A	G, H, J Series
VCC1	Class 2	E, F Series
	Class 1	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

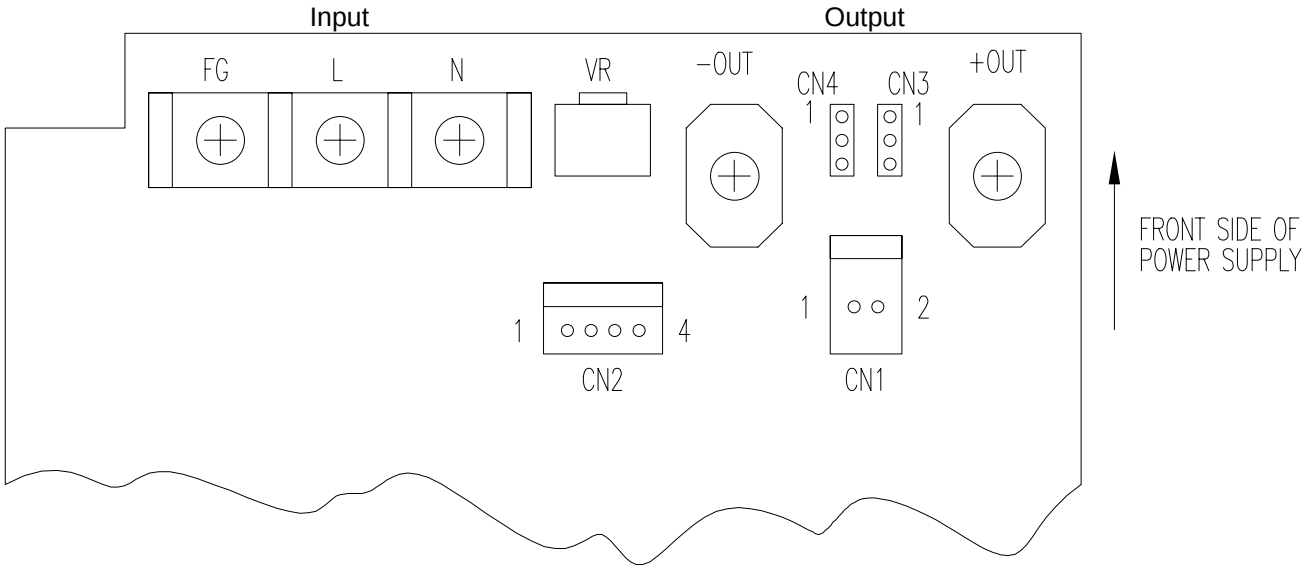
(2) Storage Temperature -20 to +85 deg. C

(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

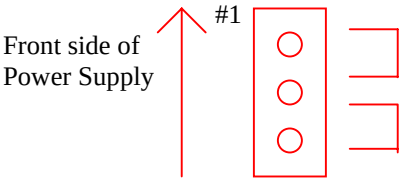
#1 pin	+Sense
#2 pin	-Sense

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



Short for Remote Sensing (Use CN1)

Short for Local Sensing (CN1 not used)

CN1 Part No:	5273-02A/Molex
Mating Part No:	5195-02 or 5239-02/Molex

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

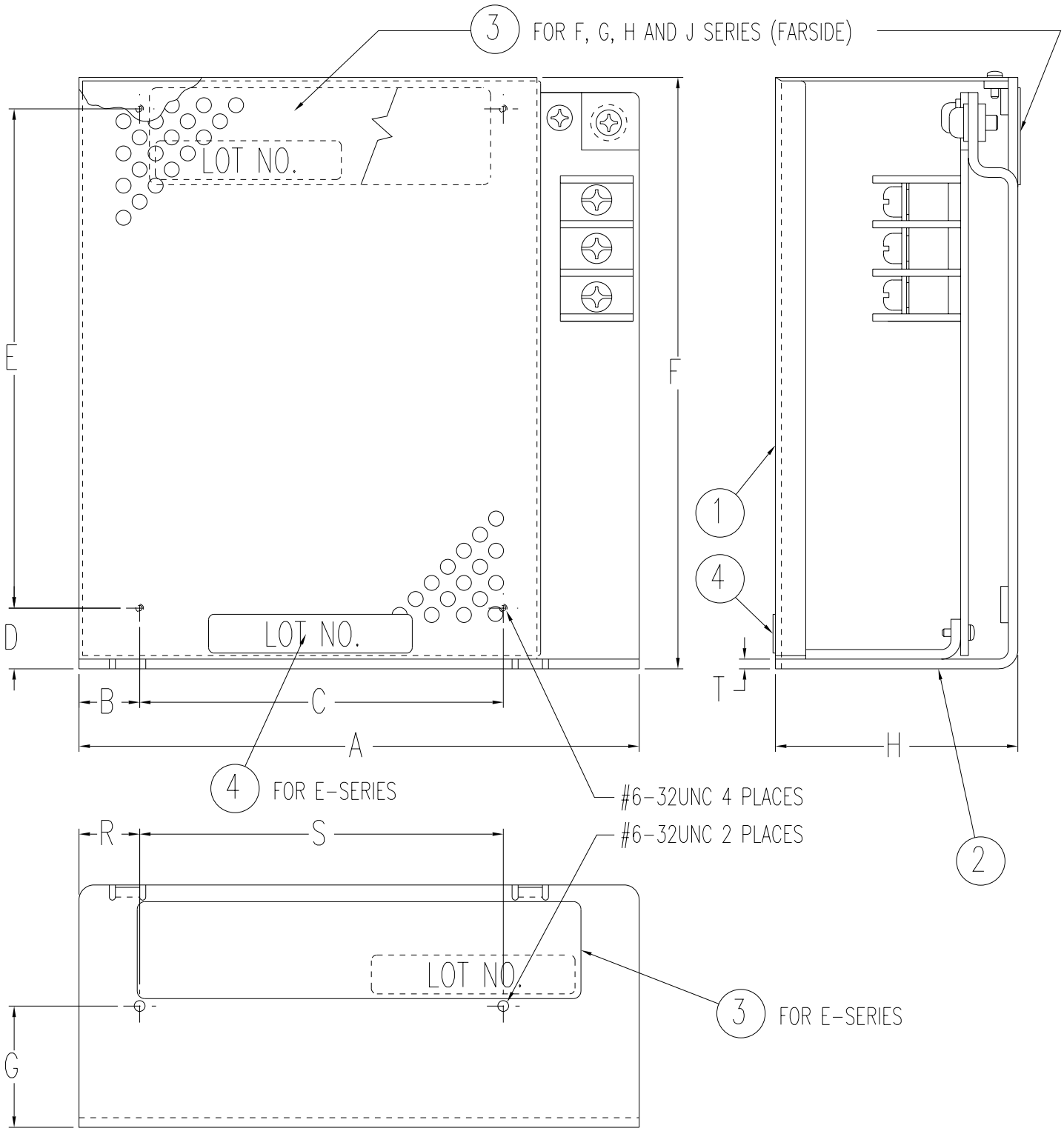
MODEL	A	B	C	D	E	F	G	H	R	S	T
OVS-E	117.3 (4.62)	12.7 (0.50)	76.29 (3.00)	12.7 (0.50)	104.6 (4.12)	124 (4.88)	25.4 (1.00)	50.8 (2.00)	12.7 (0.50)	76.2 (3.00)	2.00 (0.079)
OVS-F	180.3 (7.10)	38.1 (1.50)	114.3 (4.50)	12.7 (0.50)	104.6 (4.12)	124 (4.88)	30.2 (1.19)	60.2 (2.37)	38.1 (1.50)	114.3 (4.50)	2.00 (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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