

FS24-100-C2

Description:

The FS24-100-C2 is a series/parallel primary and dual secondary, split bobbin design which operates with either a parallel input of 115V or a series input of 230V. The secondaries are 12V @ 0.1A each. They can be used independently (up to 300V difference between them) or in series for double the voltage or in parallel for double the current. The split bobbin design eliminates the need for costly electrostatic shielding.

Electrical Specifications (@25C)

1. Maximum Power: 2.5VA
2. Primary: Series: 230V; Parallel: 115V
3. Secondaries: 12.0V @ 0.1A each
4. Voltage Regulation: 25% TYP @ full load to no load
5. Operating Temperature: -40C to 105C
6. Storage Temperature: -55C to 150C
7. Hipot tested 100% at 4200 VRMS pri to sec
8. Hipot tested 100% at 2160 VRMS sec to sec
9. Inherently Limited. No fusing required.

Construction:

Three flange bobbin construction with primaries and secondaries wound side by side for low capacitive coupling. UL Class F Insulation System (155°C).

Agency File:

UL: File E65390, UL 5085-1 & 3 (1585), Class 2 not wet / Class 3 wet Transformer
 cUL: File E65390, UL 5085-1 & 3 (1585) For Canadian Use (CSA 22.2, No.66.3-06)
 TUV Certificate No.: R72120839, EN61558, Safety Isolating xfmr, general use



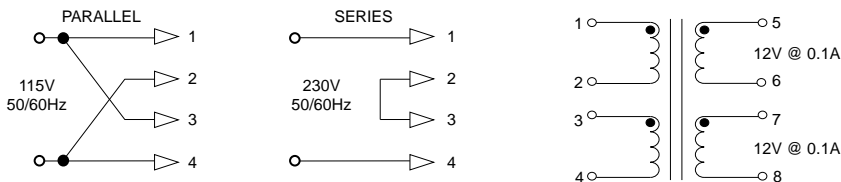
Dimensions:

Units in inches.

H	W	L	A	B	C	D	E	F
1.260 MAX	1.201 MAX	1.398 MAX	0.250±0.02	0.250±0.02	1.201±0.02	0.041	0.02	0.217±0.02

Weight: 0.25 lbs

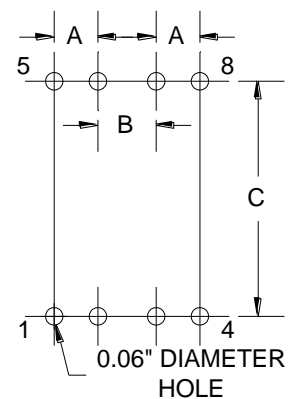
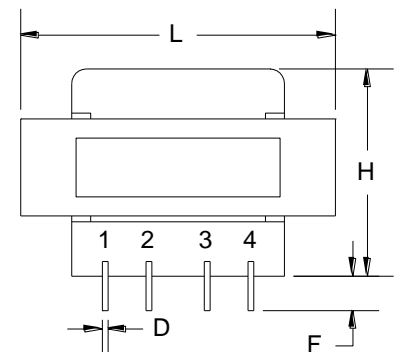
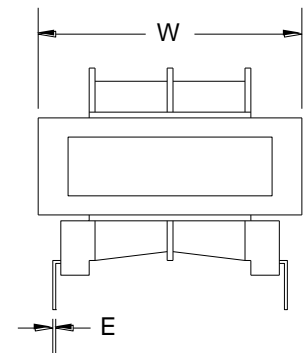
Schematic:



RoHS Compliance: As of manufacturing date February 2005, all standard products meet the requirements of 2011/65/EU, known as the RoHS initiative.

Note: Order and shipping documentation may have a "-B" suffix; this indicates Bulk packaging but does not show on the actual part number marked on the transformer.

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Board Layout

CSE187L

Description:

Triad's low frequency current sense transformers are designed to monitor current from 0.1 to 30 amperes at frequencies from 50 Hz to 400 Hz. This product is also available in potted coil construction as CSE187L-P.

Electrical Specifications at 25° C:

Turns ratio: Primary to sense 1: 500

Suggested burden resistor: 60Ω for 110mV/A

Primary DCR: 250 micro ohms maximum

Sense DCR: 21 ohms maximum

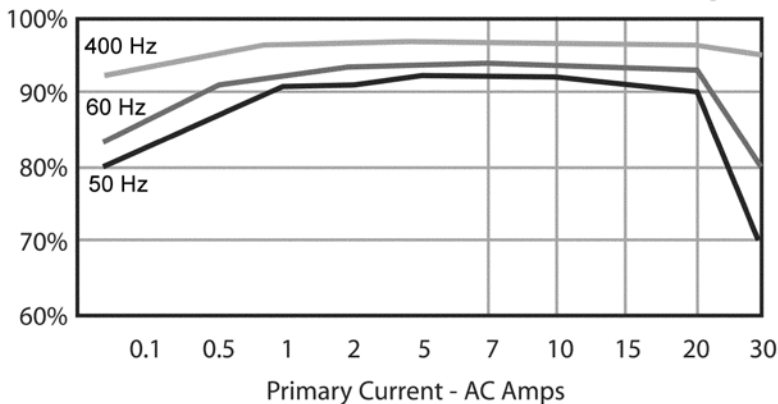
Operating Temperature: -40°C to 105°C

Storage Temperature: -50°C to 125°C

Maximum input: 30Arms, 0-240VAC circuit

Maximum output voltage: 4.0Vrms. Burden resistor value must be selected to not exceed this voltage.

Response Curve:



Construction:

These transformers are provided with Recognized Component electrical insulation system (OBJY2), Class 130 (B), designated "B3". Products are designed, built and 100% tested for a hi-pot of 2500V, winding to winding and 1250V, winding to core.

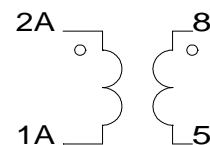
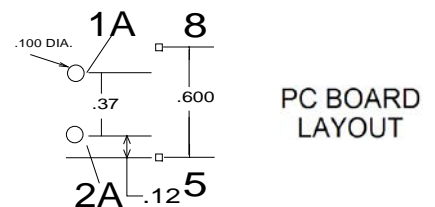
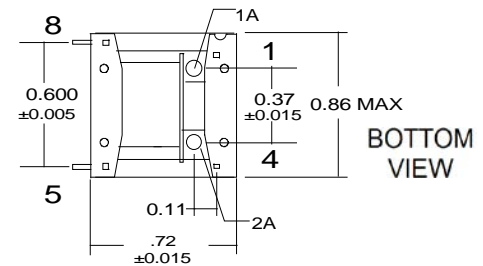
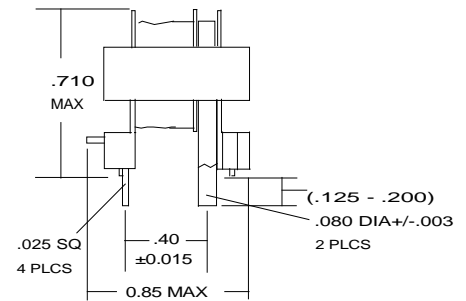
Agency Files:

UL file E50476 – Electrical Insulation Systems, Class "B3", 130C

UL file E205349 – Component, Instrument Transformer (XODW2)

RoHS Compliance: As of manufacturing date February 2005, all standard products meet the requirements of 2011/65/EU, known as the RoHS initiative.

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SCHMATIC

CST-1005

Description:

Triad current sense transformers are used to detect the current passing through a conductor. These transformers are very reliable and operate efficiently at 50/60 Hz.

Electrical Specifications (@25C)

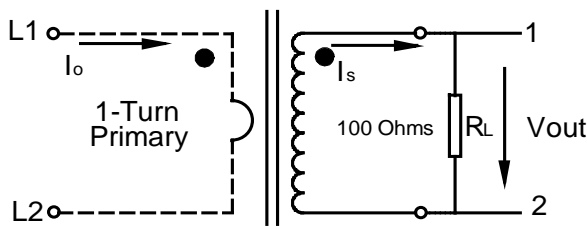
IP Amps	Turns Ratio	Terminating Resistor		DCR (Ω) Nominal	Volts/Amp@ rated IP for various loads (Ω)				Net Weight Grams
		Ohms	Watts		100	500	2K	5K	
5	1000:1	100	.0025	40	.0958	.4490	1.3694	1.8402	20

Dimensions:

A	B	C	D	E	F
23.50	24.80	12.00	15.00	7.50	8.50

Units: In mm

Schematic:

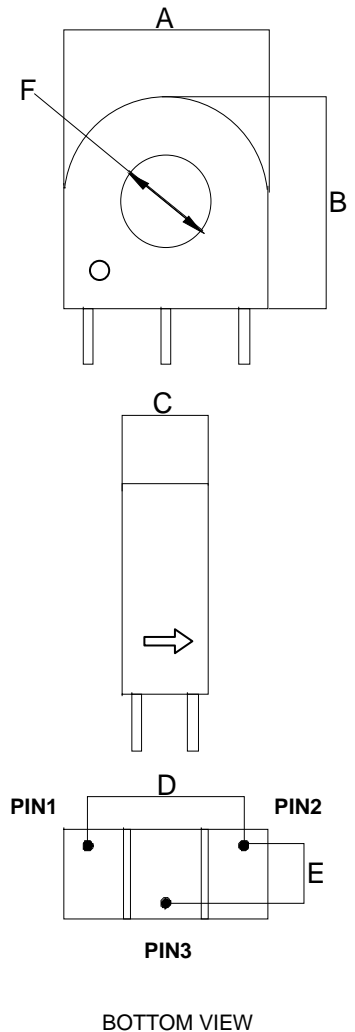


Technical Notes:

1. Pin3 for mechanical support only.
2. Pin diameter is 0.8±0.1 mm.
3. Pin length is 5±1mm.

RoHS Compliance: As of manufacturing date February 2005, all standard products meet the requirements of 2011/65/EU, known as the RoHS initiative.

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TCT40-06E07AB

Description:

Triad control transformers come with tamper resistant shrouds for safety and a steel bracket welded to the bottom of the transformer for ease of mounting. These transformers are design and have the safety agency recognition for application where a Class 2 transformer is necessary. Some of the applications would include, but not limited to HVAC, Control boards, Lighting, etc.

Electrical Specifications (@25C):

1. Maximum Power: 40VA
2. *Input: 120V, 50/60 Hz
240V, 50/60Hz
3. Output: 24V @ 1.67Amps
4. Voltage Regulation: 15% TYP @ full load to no load
5. Temperature Rise: <40°C TYP
6. Hipot: 1500VAC – Input to Output, Input & Output to Core
7. Inherently Limited. No fusing required.

* Only one input voltage to be applied to primary at any time.

Construction:

Three flange bobbin construction with primaries and secondaries wound side by side for low capacitive coupling. Unit weight is 1.5lbs.

Agency File:

UL: File E65390, UL 5085-3 (1585), Class 2 Transformer

cUL: File E65390, UL 5085-3 (1585) For Canadian Use (CSA 22.2, No.66.3-06)

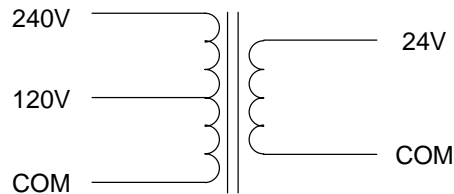


Connections:

Input: Quick Disconnect tabs, 0.5 x 0.25 x 0.032

Output: Quick Disconnect tabs, 0.5 x 0.25 x 0.032

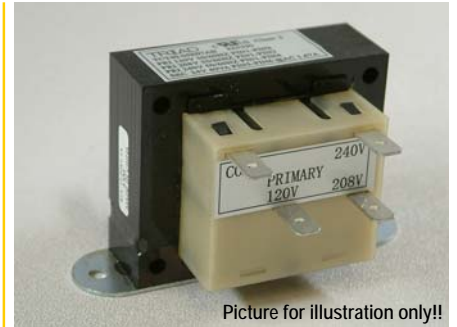
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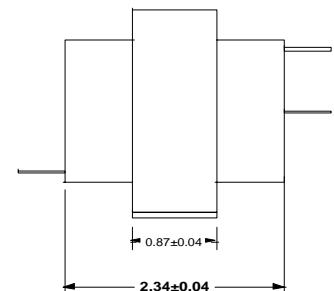
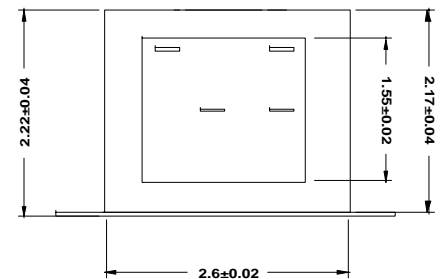
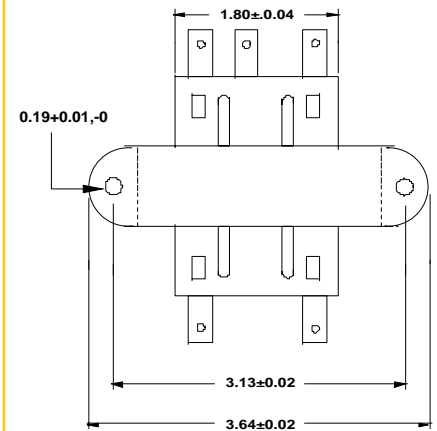
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As of April 7, 2008, UL standards 506 and 1585 will be migrated to UL 5085-2 and 5085-3, respectively.

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Picture for illustration only!!





Triad Magnetics

460 Harley Knox Blvd

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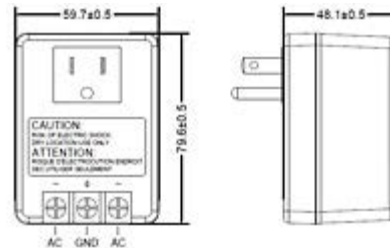
Tel: 951.277.0757 • Fax: 951.277.2757

Email: info@triadmagnetics.com • Website:

www.triadmagnetics.com

Item # WAU240-500-SG, Wall Plug-In Power Supply, 24 VAC @ 500ma, cULus, Level VI, Screw Terminals w/Pass Through Ground

- Efficiency Level: VI
- Power Output: 12VA
- Primary Rating: 120VAC 60Hz
- Secondary Rating: 6VAC -24VAC, 2000mA -500mA
- Temperature Rise: 30 Deg C Max at rated load
- UL/cULFile: E341931, UL 1310 (Tab Parts UL only)
- Dimensions (mm): Height: 79.6 Width: 59.7 Depth: 48.1



[Specifications](#) | [Mechanical Parameters](#)

Specifications

Primary Input Voltage (AC)	120 V
Input Operating Frequency	60 Hz
Primary Excitation Current	< 4 mA
Secondary Output Voltage (AC) at Secondary Rated Current (AC)	24 V

Tolerance for Secondary Output Voltage (AC)	$\pm 5 \%$
Secondary Output Current (AC)	500 mA
Output Voltage	24 V
Secondary No-Load Reference Voltage (AC)	< 29.5 V
No-Load Power (Stand By)	$\leq 0.21 \text{ W}$
Average Efficiency	82.96 %
Stock	Yes
Operating Temperature Range	-10 to +40 °C
Maximum Temperature Rise at Rated Load	30 °C
Maximum Temperature Rise on Enclosure Surface	45 °C
Height	79.6 mm
Length	59.7 mm
Depth	48.1 mm
Mounting Configuration	Wall Plug-In
Intended Applications	External Power Source
Power Supply UL Rating	Class 2
Input Plug	North America
Output Type	AC
2007 EISA Efficiency	VI

Case Type

Thermoplastic Molded Enclosure

TY - 146P

Description:

These transformers operate in the 200 Hz to 15,000 Hz range, making them suitable for a broad application spectrum in the audio industry. These devices are used in line matching, telephone coupling, pulse trigger, driver, interstage, output, isolation and input applications.

Operating Temperature Range: 0° C to 105° C

Electrical Specifications at 25° C:

1. Primary Impedance: 600Ω CT / 150Ω
+ 15% with 600Ω load
2. Secondary Impedance: 600Ω CT / 150Ω
3. Output: 1W
4. Primary DC Unbalance: 0 Ma
5. Frequency Response: ± 2db from 200 to 15,000 Hz
6. Impedance Matching: 10% over full frequency range
7. Longitudinal Balance > 45db
8. Insertion Loss @ 1K Hz: < 1.5db
9. Return Loss: > 26db
10. Total Harmonic Distortion < 0.5% between 275Hz and 3.5KHz
11. DCR:

Primary (1-2)	17Ω Nominal	<input type="checkbox"/>
Primary (3-4)	19Ω Nominal	<input type="checkbox"/>
Secondary (5-6)	14.5Ω Nominal	
Secondary (7-8)	22Ω Nominal	
12. Turns Ratio: 1 : 1
13. Dielectric Strength: 1500V Pri to Sec to Core

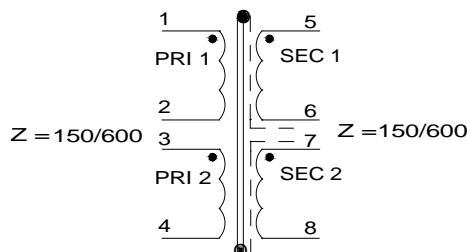
Construction:

Bobbin has plug-in terminals which are spaced to provide fixed mounting centers. Pins are a rugged .042" square, minimizing the incidence of bent pins from handling.

Outline Dimensions:

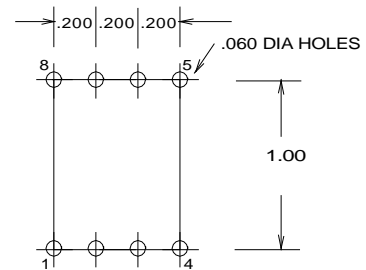
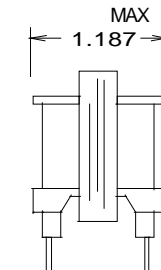
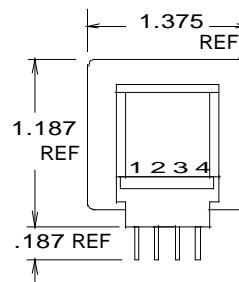
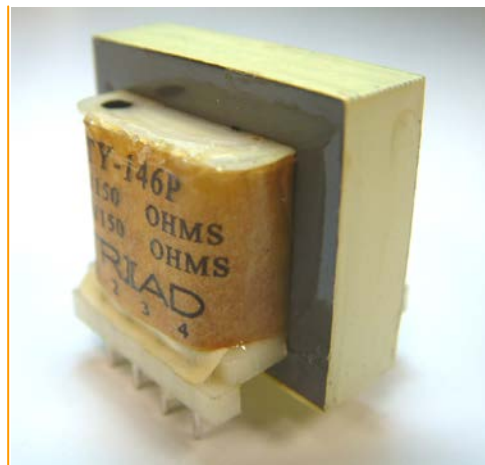
- A. Dimensions: As figures show
- B. PIN DIM. : .0375" x .020"
- C. Weight. : 3.0 oz.

Schematic:



RoHS Compliance: As of manufacturing date February 2005, all standard products meet the requirements of 2011/65/EU, known as the RoHS initiative.

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VPM48-1040

Description:

The toroidal construction inherently reduces stray fields, increases efficiency and minimizes size compared to traditional EI transformers. The addition of a Flux Band further reduces the remaining stray fields. The shield between Primary and Secondary improves safety, reduces common mode signals and minimizes leakage current. Built with a Class F (155°) insulation system. A 140°C self-resetting thermal switch is included in each primary.

Electrical Specifications (@25C)

1. Maximum Power: 50VA
2. Input Voltages: 100, 120, 220, 240VAC, 50/60Hz
3. Output Voltages: 24VAC @ 2.08A or 48VAC CT @ 1.04A
4. Voltage Regulation: 11.5% TYP from full load to no load
5. Temperature Rise: 45°C TYP
6. Hipot: 4000VAC, Primary to Secondary, Primary & Secondary to Shield & mounting surface
7. Efficiency: 89% TYP. @ full load
8. Earth Leakage: ≤10µA (See Fig. 1), Patient Leakage: ≤ 25µA (see Fig. 2)

Agency File:

UL: File E122529, UL 60601-1/(R) 2012 Medical Electrical Equipment – Part 1 with 2 MOPP
 CE: ES 60601-1 (IEC 60601-1:2005, MOD)
 cUL: C22.2 No. 60601-1:14, Medical Electrical Equipment – Part 1
 CB Certified.



Dimensions: Inches (mm)

O.D.	I.D.	HT.*
3.6 (92)	1.3(32)	1.5(38)

*Add 0.188 (3) to the height for mounting hardware

Weight: 0.7Kg

Mounting:

Transformer is provided with one metal mounting plate, two rubber pads, M5 x 45mm bolt, nut, spring and flat washer.

Connections:

Transformer is provided with 8" (203mm) long, 0.25" (6.35mm) stripped and tinned, stranded UL 1015 lead wire. Primaries are 22AWG, Secondaries are 20AWG, and Shield is 20AWG. The GRN/YEL shield lead is typically grounded. **Do not lift transformer by leads!**

Input Options:

- 100VAC:** Input to Gray & Blue, jumper White & Brown, jumper Blue & Violet.
- 120VAC:** Input to White & Blue, jumper White & Brown, jumper Blue & Violet.
- 220VAC:** Input to Gray & Violet, jumper Blue & Brown
- 240VAC:** Input to White and Violet, jumper Blue & Brown

Output Options:

- 24VAC:** Output from Black & Red, jumper Black & Orange, jumper Red to Yellow
- 48VAC:** Output from Black & Yellow, jumper Red & Orange

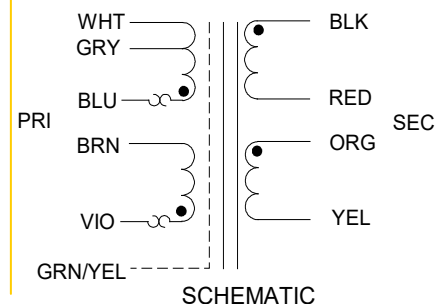
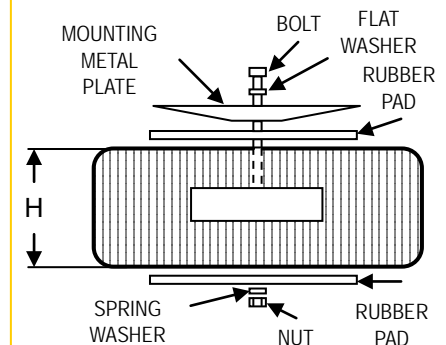
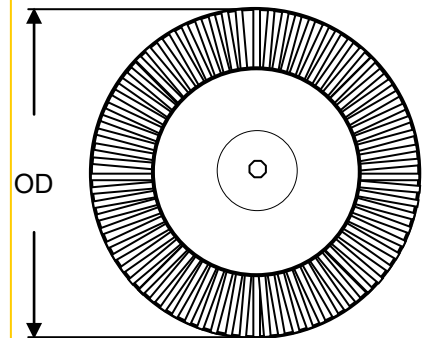
Primary and secondary windings are designed to be connected in series or parallel. Windings are not intended to be used independently.

RoHS Compliance: Meets the requirements of 2011/65/EU, known as the RoHS 2 initiative.

* At printing, this document is considered "uncontrolled". Contact Triad Magnetics' website for current version



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Earth Leakage Current:

V_{in} : Apply 264VAC @60Hz, BLU & BRN - YEL/GRN

Connect resistor and meter between: RED & ORG - YEL/GRN

Leakage Current = 10 uA MAX

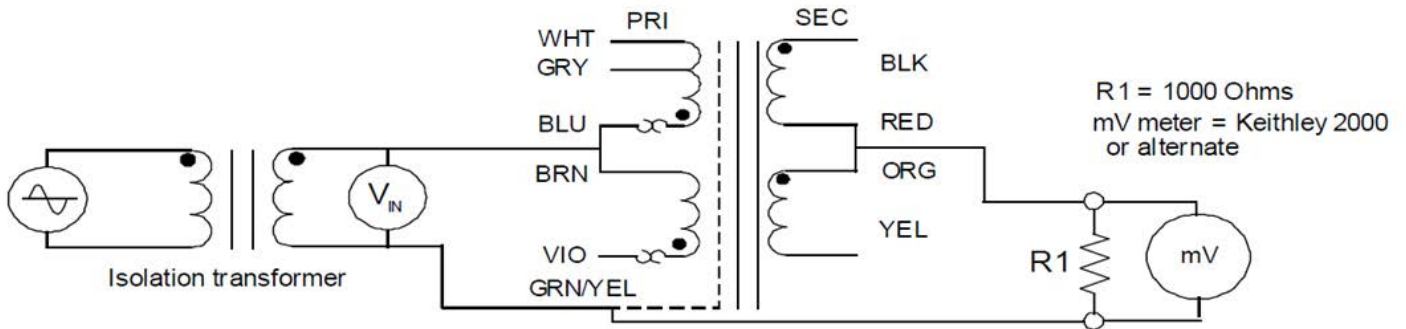


Figure 1

Patient Leakage Current:

V_{in} : Apply 264VAC @60Hz, WHT - VIO,

(Tie BLU & BRN, Tie RED & ORG)

GRN/YEL - BLK = 25 uARMS MAX

GRN/YEL - Red & ORG = 25 uARMS MAX

GRN/YEL - YEL = 25 uARMS MAX

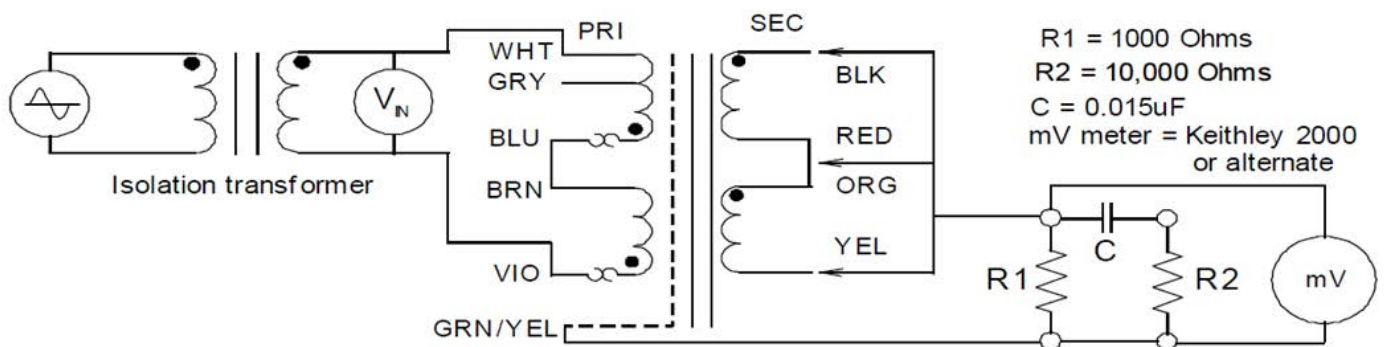


Figure 2

VPS24-1000

Electrical Specifications (@25C)

1. Maximum Power: 25VA
2. Primary - **Series:** 230VAC@50/60Hz; **Parallel:** 115VAC@50/60Hz
3. Secondary - **Series**¹: 24V CT@ 1.0A; **Parallel**²: 12.0V @ 2.0A
4. Voltage Regulation: 25% TYP @ full load to no load
5. Temperature Rise: 30C TYP (45C MAX allowed)
6. Insulation Resistance: 100MΩ
7. Recommended Fuse³:
 Series: Littelfuse p/n 313 1.25HXP, 1.25A 250V, slow blow, ¼ x 1 ¼ or,
 Cooper Bussmann p/n BKMDL-1 ¼, 1.25A 250V, ¼ x 1 ¼
 Parallel: Littelfuse p/n 313 2.5HXP, 2.5A 250V, slow blow, ¼ x 1 ¼ or,
 Cooper Bussmann p/n BKMDL-2 ½, 2.5A 250V, ¼ x 1 ¼

Construction:

Dual bobbin construction with an insulated shroud, both made of a high temperature material that exceeds UL flammability requirements.

Safety:

These units are designed with 4000VAC isolation between the primary and secondary, and also, between each winding and the core.

Agency File:

UL: File E53148, UL 5085-1 and 2 (formerly UL 506), General Purpose.
 File E65390, UL 5085-1 and 3 (formerly UL1585), Class 2/3
 CSA: File LR 221330. C22.2 NO. 66, General Purpose.
 TUV Certificate No.: R72103639, EN60950, Information Technology



A. Dimensions:

Unit: In inches

H	W	D	A	B	C	T	MW	ML
2-5/16	2-13/16	1-15/16	2	1-1/8	5/16	3/16	2-3/8	-

B. Mounting Hole Size: 3/16"

C. WT Lbs. : 1.25

D. Terminal Size: 0.187"x 0.020"

Connections⁴:

Input: Series – 6 and 1, Jumper 5 to 2

Parallel – 6 and 1, Jumper 6 to 2 and 5 to 1

Output: Series – 12 and 7, Jumper 11 to 8

Parallel – 12 and 7, Jumper 12 to 8 and 11 to 7

RoHS Compliance: As of manufacturing date February 2005, all standard products meet the requirements of 2011/65/EU, known as the RoHS initiative.

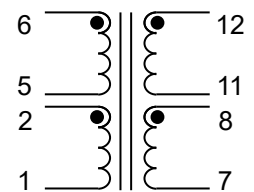
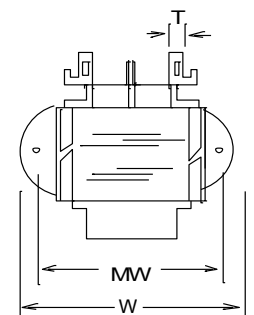
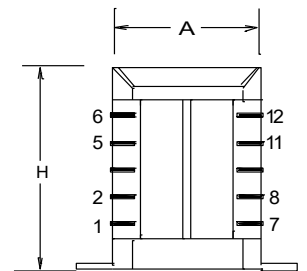
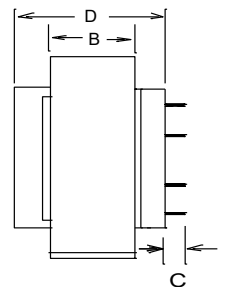
* Upon printing, this document is considered "uncontrolled". Please contact Triad Magnetics' website for the most current version.

¹ Non-Inherently limited. Class 3.

² Non-Inherently limited. Class 2 not wet, Class 3 wet.

³ Fuse must be used on **secondary** as conditions of acceptability for UL Class2/3 operation.

⁴ Primary and secondary windings are designed to be connected in series or parallel. Winding are not intended to be used independently.



SCHEMATIC

WSU120-1000

Electrical Specifications (@25C)

1. Input Voltage rating: 100-240VAC, 50-60Hz
2. Input Voltage range: 90-264VAC
3. Input current: <0.4A(RMS) @ 115VAC*
4. Max Inrush Current: <60A peak @ 115VAC (Cold start)*
5. Output Voltage: 12VDC
6. Output Current: 1.0A
7. Regulation (line & load): ±5%*
8. Ripple & Noise: 150mVpk-pk Max*
9. No load power (stand by): <100mW*
10. Average Efficiency: ≥82.96%. Meets minimum level VI efficiency.*

Environmental Specifications

1. Operating Temperature Range: 0°C to +40° C @ full load
2. Storage Temperature Range: -20°C to 60°C
3. Humidity: 5% to 95%, Non-condensing

Reliability Specifications

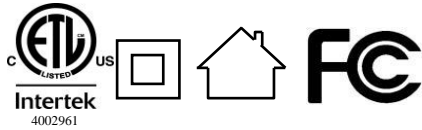
1. Leakage Current: <0.25mA (264VAC)
2. Dielectric Strength (Hi-pot): 4242VDC/3secs., 5mA Max
3. Warranty: 5 years

Mechanical Parameters

Case Type: Thermoplastic molded enclosure.
Output Cord: 24 AWG, 6 Ft. Long Nom.*

Safety & EMI

ETL: 4002961 conforms to UL STD: 60950-1. Certified to CSA STD C22.2 No. 60950-1 Class II, Double Insulated*
EMI standard: FCC part 15 class B
Over voltage and short circuit protected

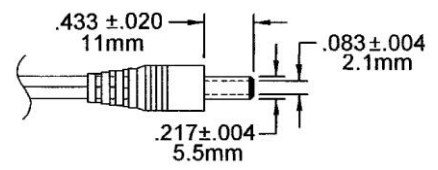
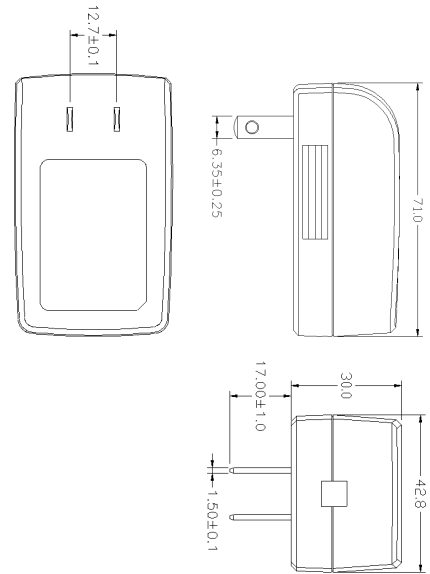


EISA 2007/CEC Compliance: All WSU Power Supplies manufactured after February 10, 2016 will meet the minimum efficiency levels for direct operation as defined by DOE Docket Number EERE-2008-BT-STD-0005-0219. Triad's level VI products will have date code no later than 1605 (YYWW) where 16 is the year and 05 is the 5th week of 2016. In accordance with DOE requirement the label will also contain the Roman numeral VI with a circle.

* These parameters were required to change in order to meet DOE's level VI efficiency requirements.

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Dim.: mm