APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0443

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Rypos, Inc.

Manufacturer's Technical Representative: Gerry Maynard

Mailing Address: 40 Kenwood Circle, Franklin, MA 02038

Telephone: (774) 233-1027 Email: gmaynard@rypos.com

Product Information

Product Name: Transformers

Product Model Number(s): ISLN Transformers

Product Category: Transformers

Product Sub-Category: Transformers – Dry Type

General Description: Copper winding transformers inside 12 GA. Painted carbon steel enclosure.

Mounting Description: Wall Mounted Rigid -

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: TRU Compliance, by Structural Integrity Associates

Contact Person: Daniel Zentner

Mailing Address: 233 SW Wilson Ave, Suite 101, Bend, OR 97702

Telephone: (541) 292-5839 Email: dzentner@structint.com

Title: Program Manager

HCAi OSP-0443 BY: Mohammad Karim DATE: 06/02/2025

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.

Name: LACHEZAR HANDZHIYSKI California License Number: S6515

Mailing Address: 5215 Hellyer Avenue, Suite 210, San Jose, CA 95138

Telephone: (669) 437-0200 Email: Lhandzhiyski@StructInt.com

Certification Method

☐ GR-63-Core ☒ ICC-ES AC156 ☐ IEEE 344 ☐ IEEE 693 ☐ NEBS 3

☐ Other (Please Specify):

Testing Laboratory

Company Name: ELEMENT (ELMT)

Contact Person: Don Bennet

Mailing Address: 1146 Massachusetts Ave., Boxborough MA 01719

Telephone: (978) 266-1001 Email: Don.Bennet@nts.com

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BY : Mohammad Karimi
DATE: 06/02/2025
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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.44 (SDS=2.00g, z/h=1.0), 1.44 (SDS=3.20g, z/h=0.0)

S_{DS} (Design spectral response acceleration at short period, g) = 2.00g (z/h=1.0). 3.20g (z/h=0.0)

a_p (Amplification factor) = 1.0

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

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HCAI Approval (For Office Use Only) - Approval Expires on 06/02/2031

Date: 6/2/2025

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.0 z/h = 1

Condition of Approval (if applicable):

SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

1901111-CR-001-R1

Manufacturer: Rypos, Inc.
Model Line: ISLN Transformers

TABLE 1

Certified Product Construction Summary:

12 GA. Carbon Steel Enclosure. Copper Windings.

Certified Options Summary:

Transformer Range: 4.125 - 12.5 kVA, Input: 208-600 VAC, Output: 12 - 200 VDC.

Mounting Configuration:

Wall mounted - rigid

Note: Installed mounting must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2022 ***Seismic Certification Limits:*** S_{DS}= ***2.0 g*** ***z/h=1.0*** S_{DS}= ***3.2 g*** ***z/h=0.0*** I_P= ***1.5***

Model Line	Model	Dimensions (in)			Weight (lbs.)	Notes	UUT
		Depth	Width	Height			
ISLN Transformers	175-0031-00-01	15.0	19.2	18.9	188	*UUT: 4.125kVA Transformer*	1
	175-0031-00-02	15.0	19.2	18.9	180		Interp.
	175-0031-00-03	15.0	19.2	18.9	215		Interp.
	175-0031-00-04	15.0	19.2	18.9	256		Interp.
	175-0031-00-05	15.0	19.2	18.9	215		Interp.
	175-0031-00-06	15.0	19.2	18.9	256	*UUT: 12.5kVA Transformer*	2
	175-0031-00-07	15.0	19.2	18.9	215		Interp.
	175-0031-00-08	15.0	19.2	18.9	192		Interp.
	175-0031-00-09	15.0	19.2	18.9	180		Interp.
	175-0031-00-10	15.0	19.2	18.9	256		Interp.
	175-0031-00-11	15.0	19.2	18.9	215		Interp.

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SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

1901111-CR-001-R1

Manufacturer: Rypos, Inc.
Model Line: ISLN Transformers
Table Description: Electrical Components

TABLE 2

Building Code: CBC 2022
Seismic Certification Limits: S_{DS} = 2.0 g z/h = 1.0; S_{DS} = 3.2 g z/h = 0.0; I_P = 1.5

Component Type	Manufacturer	Model	Description	Notes	UUT
Transformer	TTI	23758	*4.125kVA, In: 208VAC, Out: 72/12VDC*		Extrap.
		23800UH2	*4.125kVA, In: 240VAC, Out: 72/12VDC*		Extrap.
		23757	*4.125kVA, In: 480VAC, Out: 72/12VDC*		1
		23753	*6 kVA, In: 480 VAC, Out: 100/72VDC*		Interp.
		23759	*8kVA, In: 208VAC, Out: 140/72/12VDC*		Interp.
		24281	*8kVA, In: 240VAC, Out: 140/72/12VDC*		Interp.
		23761	*8kVA, In: 480VAC, Out: 140/72/12VDC*		Interp.
		23763	*8kVA, In: 510VAC, Out: 135/72/12VDC*		Interp.
		23760	*12.5kVA, In: 208VAC, Out: 200/72/12VDC*		Interp.
		23810	*12.5kVA, In: 600VAC, Out: 200/72/12VDC*		Interp.
		23762	*12.5kVA, In: 480VAC, Out: 200/72/12VDC*		2
Fuse	Bussmann	LP-CC-8	*8A, UL Class CC*		1, 2
Fuse Holder	Bussmann	H25030-1C	*Single Pole, UL Class RK250*		1, 2
AC/DC Converter	CUI Inc.	VSK-S20-12U-T	*12V, 20W*		1, 2
Fan	Orion Fans	OA109AP-11-1TB	*120x38, 115V, 110CFM*	*QTY2*	1, 2
Heat Sink	Wakefield	394-2AB	*101x139mm, 1.51 C/W, 0.6 C/W@500LFM*		1, 2
Resistor	Panasonic	ERG-3SJ203	*20K, 3W, Axial Lead*	*QTY2*	1, 2
Rectifier	Vishay	VS-160MT80KPBF	*Bridge Rectifier MOD 3PH, 160A, 800V*		1, 2
	IXYS	VUO25-08N08	*FWB Rectifier, Single Phase*		1, 2
Terminal Block	Marathon	985 GP 04	*4 Pole*		1, 2
		986 GP 05	*5 Pole*		1, 2
	TE Connectivity	1546306-2	*2 Pole*		1, 2
Lamp	Jameco Valuepro	2181378	*7mm, 12V, Incandescent Green*		1, 2

CERTIFIED FOR CODE COMPLIANCE
OSP-0443
CERTIFIED BY: Muhammad Nasim
DATE: 06/02/2025
CALIFORNIA BUILDING CODE 2022

UNIT UNDER TEST (UUT) SUMMARY SHEET

1901111-CR-001-R1

Manufacturer: Rypos, Inc.

Model Line: ISLN Transformers

UUT	Unit Description (mounting)	Report Number (UUT#)	Testing Lab	Year Tested	ISO 17025 Accredited?	S_{DS}	z/h	I_P
1	4.125kVA ISLN Transformer (wall mounted - rigid)	PR036285 Rev. 1 (UUT1)	Element - Boxborough	2015	Yes	2.0 3.2	1.0 0.0	1.5
2	12.5kVA ISLN Transformer (wall mounted - rigid)	PR036285 Rev. 1 (UUT2)	Element - Boxborough	2015	Yes	2.0 3.2	1.0 0.0	1.5

Notes:

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UNIT UNDER TEST (UUT) SUMMARY SHEET

1901111-CR-001-R1

UUT 1

Manufacturer:	*Rypos, Inc.*
Model Line:	*ISLN Transformers*
Model Number:	*175-0031-00-01*
Serial Number:	*N/A*
Test Report:	*PR036285 Rev. 1 (UUT1)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
188	15.0	19.2	18.9	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

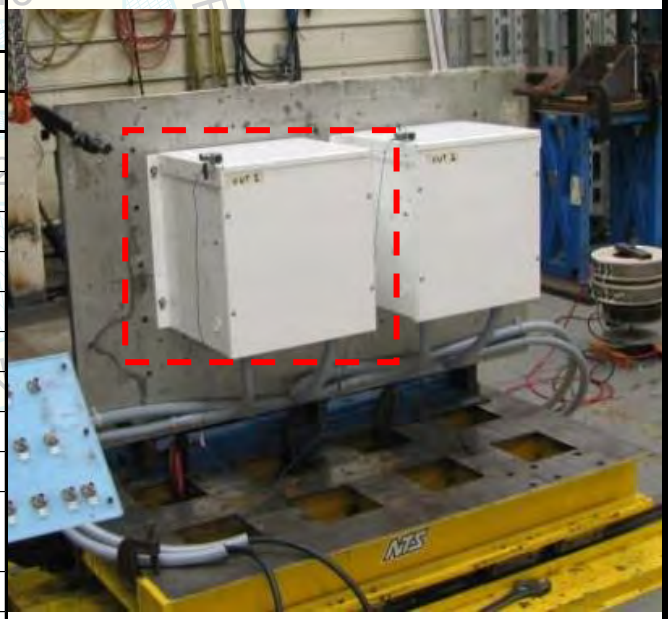
Product Construction Summary:

12 GA. Carbon Steel Enclosure. Copper Windings.

Options/Subcomponent Summary:

Description	*Mfr.*	*Part Number*
AC/DC Converter	*CUI Inc.*	*VSK-S20-12U-T*
Fan	*Orion Fans*	*OA109AP-11-1TB*
Fuse	*Bussmann*	*LP-CC-8*
Fuse Holder	*Bussmann*	*H25030-1C*
Heat Sink	*Wakefield*	*394-2AB*
Lamp	*Jameco Valuepro*	*2181378*
Rectifier	*Vishay*	*VS-160MT80KPBF*
	IXYS	*VUO25-08N08*
Resistor	*Panasonic*	*ERG-3SJ203*
Terminal Block	*Marathon*	*985 GP 04, 986 GP 05*
	TE Connectivity	*1546306-2*
Transformer (Input - 480 VAC, Output -72/12 VDC)	*TTI*	*23757*

Test Mounting Details:



UUT1 was wall mounted - rigid to the test fixture using four (4) 3/8" Grade 5 bolts and washers, torqued to 33 ft/lbs. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

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UNIT UNDER TEST (UUT) SUMMARY SHEET

1901111-CR-001-R1

UUT 2

Manufacturer:	*Rypos, Inc.*
Model Line:	*ISLN Transformers*
Model Number:	*175-0031-00-06*
Serial Number:	*N/A*
Test Report:	*PR036285 Rev. 1 (UUT2)*

UUT Properties

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
256	15.0	19.2	18.9	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}(g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.13	0.85
		3.2	0.0					

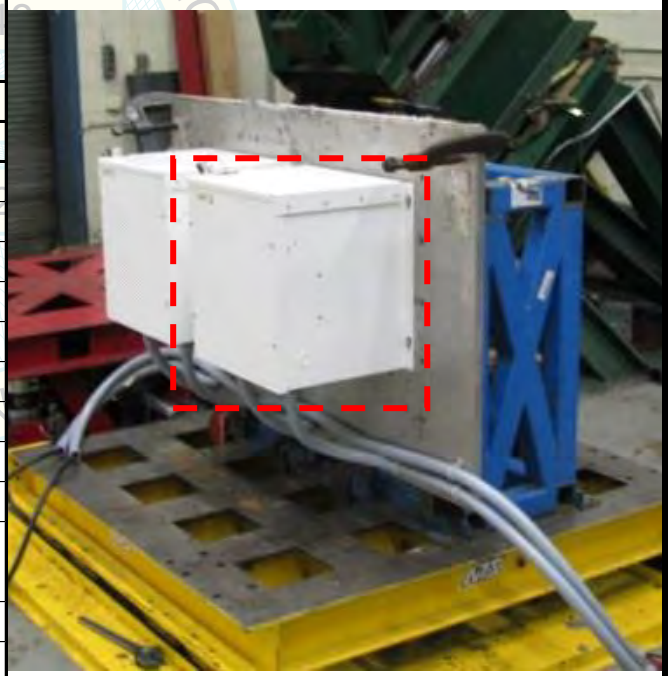
Product Construction Summary:

12 GA. Carbon Steel Enclosure. Copper Windings.

Options/Subcomponent Summary:

Description	*Mfr.*	*Part Number*
AC/DC Converter	*CUI Inc.*	*VSK-S20-12U-T*
Fan	*Orion Fans*	*OA109AP-11-1TB*
Fuse	*Bussmann*	*LP-CC-8*
Fuse Holder	*Bussmann*	*H25030-1C*
Heat Sink	*Wakefield*	*394-2AB*
Lamp	*Jameco Valuepro*	*2181378*
Rectifier	*Vishay*	*VS-160MT80KPBF*
	IXYS	*VUO25-08N08*
Resistor	*Panasonic*	*ERG-3SJ203*
Terminal Block	*Marathon*	*985 GP 04, 986 GP 05*
	TE Connectivity	*1546306-2*
Transformer (Input - 480 VAC, Output -200/72/12 VDC)	*TTI*	*23762*

Test Mounting Details:



UUT2 was wall mounted - rigid to the test fixture using four (4) 3/8" Grade 5 bolts and washers, torqued to 33 ft/lbs. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

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