APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0516

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Rockwell Automation

Manufacturer's Technical Representative: Krzysztof Blok

Mailing Address: 1201 South Second Street, Milwaukee, WI 53204

Telephone: (414) 382-2000 Email: kblok@ra.rockwell.com

Product Information

Product Name: Industrial Control Panels

Product Type: Variable Frequency Drives and Starters

Product Model Number: PowerFlex 755T Drive Systems

General Description: Drives are designed to provide harmonic mitigation, regeneration, and common bus solutions.

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

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

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: NATIONAL TECHNICAL SYSTEMS (NTS)

Contact Person: Robert Bridges

Mailing Address: 7800 Highway 20 West, Huntsville AL 35806

Telephone: (256) 837-4411 Email: Robert.Bridges@nts.com

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.72 (z/h=1), 1.03 (z/h=0)

S_{DS} (Design spectral response acceleration at short period, g) = 2.29

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6

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

HCAI Approval (For Office Use Only) - Approval Expires on 06/12/2029

Date: 6/12/2023

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.29 z/h = See Above

Condition of Approval (if applicable):

SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2201353

TRU COMPLIANCE

Manufacturer: Rockwell Automation
Model Line: PowerFlex 755T Drive Systems

TABLE 1

Certified Product Construction Summary:
All enclosures are cold-formed carbon steel, 14 gauge doors and 16 gauge frame and panels. All DC bus bars are copper.
UL Enclosure Type 1/IP21.

Certified Options Summary:
Control Bay and Input Bay are rated UL Type 1/IP21 and UL Type 12/IP54 (same construction). Bus Supply Power Bay and CBI Power Bay are UL Type 1/IP21.

Mounting Configuration:
Base 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}= ***2.29 g z/h=1.0*** S_{DS}= ***2.29 g z/h=0.0*** I_P= ***1.5***

Model Line	Model [2]	Dimensions (in)			Weight (lbs.)	Notes	UUT
		Depth	Width	Height			
AFE Bus Supplies	Frame 8 Input Bay	26.4	15.7	83.9	462	Tested Catalog Number[1]: 20J1‡3D740JD-P17P46P50P51	1A
	Frame 8 Bus Supply Power Bay	26.4	23.6	83.9	1,102		1B
Common Bus Inverter (CBI)	Control Bay [3]	26.4	11.8	83.9	180	Tested Catalog Number[1]: 20G1D3D740JD-P46P50P51C0C11	2A
	Frame 8 CBI Power Bay	26.4	15.7	83.9	825		2B

Notes:
1. *Catalog number nomenclature explained on following page.*
2. *The bays shown above are combined to create PowerFlex TR & TL Drive Systems and PowerFlex TM AFE Bus Supply systems.*
3. *Frame 8-12 systems use the same Control Bay.*

SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2201353

Manufacturer:	Rockwell Automation	**TABLE 1**
Model Line:	PowerFlex 755T Drive Systems	

Product Nomenclature:

AFE Bus Supplies Nomenclature: *20J6‡$#RRR%N&NNNNN-PXX*

β = Corrosive Gas Protection: 1 (Standard) or E (Corrosive Gas Protection XT)
‡ = Input type: F (Regen) or G (Low Harmonic) [software difference only]
§ = Enclosure type: 3 (UL Type 1/ IP21/ Nema 1) or 4 (UL Type 12/ IP54/ Nema 12)
# = Voltage Rating: C(400V), D(480V), E(600V) or F(690V) [software controls voltage]
RRR = Output current rating Normal Duty: 221A - 826A [software controlled]
% = EMC Filter Jumper option: J,K,L or M [switch position only]
& = HIM option: A (No HIM), D (Enhanced LCD HIM)

P17 = Top cable entry without wire bay
P46 = System DC bus 4700A
P50 = DC bus conditioner
P51 = DC bus conditioner (Marine)

The above options were all tested in UUT-1A and UUT-1B.

Common Bus Inverter Nomenclature: *20G6‡$#RRR%N&NNNNN-PXX*

β = Corrosive Gas Protection: 1 (Standard) or E (Corrosive Gas Protection XT)
‡ = Input type: D (With DC Precharge) or E (Without DC Precharge)
§ = Enclosure type: 3 (ULType 1/ IP21/ Nema 1) or 4 (ULType 12/ IP54/ Nema 12)
# = Voltage Rating: C(400V), D(480V), E(600V) or F(690V) [software controls Voltage]
RRR = Output current rating Normal Duty: 215A - 770A [controlled by software]
% = EMC Filter Jumper option: J,K,L or M [switch position only]
& = HIM option: A (No HIM), D (Enhanced LCD HIM)

P46 = System DC bus 4700A
P50 = DC bus conditioner
P51 = DC bus conditioner (Marine)
C0 = Torque accuracy Module
C11 = Single POD with control bay

The above options were tested in UUT-2A and UUT-2B.

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2201353

TRU COMPLIANCE

Manufacturer: Rockwell Automation
Model Line: PowerFlex 755T Drive Systems
Table Description: Input & Control Bay Subcomponents

TABLE 2

Building Code: CBC 2022
Seismic Certification Limits: S_{DS} = 2.29 g z/h = 1.0 I_P = 1.5
S_{DS} = 2.29 g z/h = 0.0

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Description	Notes	UUT
		Depth	Width	Height				
AC Precharge Modules (Rockwell Automation)	20-750-MACP-CD-F8M	13.7	12.1	44.6	90	400/480 VAC	Frame 8	1A
Circuit Breaker (ABB)	T7MLBP3DB0HBDHHEC	7.0	8.3	10.6	11	1000 Amp/3 Pole		1A
Fused Disconnect (Rockwell Automation)	194R-J30-1753-PBS1	5.8	6.7	9.8	2	600 Volt/30 Amp		1A
Contactor (Rockwell Automation)	100-C30KA-10	3.9	1.8	3.2	2	30 Amp Contact		1A
ACPC Accessories (Rockwell Automation)	20-750-MACP-CD-TVSS	3.9	3.0	4.1	1.5	TVSS Module, 400/480 VAC		1A
	20-750-MACPC1-CD	12.4	6.7	1.0	1	Precharge Board, 400/480 VAC		1A
	20-750-MFTB1-F8	2.0	3.5	0.4	0.1	Fiber Transceiver Board		1A
Control Pods (Rockwell Automation)	20-750-MCPOD1-F8M	5.0	6.6	19.7	11	Control Pod, Regen	Fr8-12	1A, 2A
	20-750-MCPOD2-F8M	5.0	6.6	19.7	11	Control Pod, Low Harmonic	Fr8-12	Interp.[1]
	20-750-MCPOD3-F8M	5.0	6.6	19.7	11	Control Pod, Regen, Corrosive Gas Protection	Fr8-12	Interp.[1]
	20-750-MCPOD4-F8M	5.0	6.6	19.7	11	Control Pod, Low Harmonic, Corrosive Gas Protection	Fr8-12	Interp.[1]
Seismic Kits (Rockwell Automation)	20-750-MOSHPD-F8M	N/A	N/A	N/A	N/A	Frame 8 Drive, BS or CBI		1A, 2A

Notes:
1. Interpolated control pods differ only in software and coating (corrosive gas protection).

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2201353

TRU COMPLIANCE

Manufacturer: Rockwell Automation
Model Line: PowerFlex 755T Drive Systems
Table Description: Power Bay Subcomponents

TABLE 3

Building Code: CBC 2022
Seismic Certification Limits: S_{DS} = 2.29 g z/h = 1.0; S_{DS} = 2.29 g z/h = 0.0; I_P = 1.5

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Description	Notes	UUT
		Depth	Width	Height				
LCL Filter Modules (Rockwell Automation)	20-750-ML1-C770D740	20.7	9.1	59.1	470	400/480 VAC, 499/551 kW	Frame 8	1B
DC Bus Conditioner (Rockwell Automation)	20-750-MDCBUS-COND	5.0	8.3	7.1	6	540/650/810/832 VDC		1B
DC Precharge Modules (Rockwell Automation)	20-750-MDCP1-CD-F8M	18.5	9.1	14.6	90	540/650VDC	Frame 8. Same construction, dimensions and weight as 20-750-MDCP2-CD-F8M.	Interp.
	20-750-MDCP2-CD-F8M	18.5	9.1	14.6	90	540/650VDC	Frame 8	2B
DC Link/Fuse Modules (Rockwell Automation)	20-750-MDCL1-CD-F8M	19.7	7.9	5.9	18	540/650VDC		1B
	20-750-MDCL2-CD-F8M	19.7	7.9	5.9	18	540/650VDC	Same construction, dimensions and weight as 20-750-MDCL1-CD-F8M.	Interp.
Torque Accuracy Module (Rockwell Automation)	20-750-MTAM1-CD	2.0	6.4	8.9	2	400/480VAC		2B
	20-750-MTAM1-EF	2.0	6.4	8.9	2	600/690VAC	Same construction, dimensions and weight as 20-750-MTAM1-CD.	Interp.
Seismic Kits (Rockwell Automation)	20-750-MOSHPD-F8M	N/A	N/A	N/A	N/A	Frame 8 Drive, BS or CBI		1B, 2B
Power Modules - IGBT PS (Rockwell Automation)	20-750-MI1-C302D302	20.7	9.1	59.1	168	Converter: 400/480 VAC, 188/216 kW Inverter: 540/650 VDC, 160 kW/250 hp	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.
	20-750-MI1-C367D361	20.7	9.1	59.1	168	Converter: 400/480 VAC, 228/258 kW Inverter: 540/650 VDC, 200 kW/300 hp	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.
	20-750-MI1-C460D430	20.7	9.1	59.1	168	Converter: 400/480 VAC, 286/307 kW Inverter: 540/650 VDC, 250 kW/650 hp	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.

Notes:
1. "E" units only differ by operating Voltage rating. They have same construction and similar weight as other units and only differ in software.

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2201353

TRU COMPLIANCE

Manufacturer: Rockwell Automation
Model Line: PowerFlex 755T Drive Systems
Table Description: Power Bay Subcomponents

TABLE 3

Building Code: CBC 2022
Seismic Certification Limits: S_{DS} = 2.29 g z/h = 1.0; S_{DS} = 2.29 g z/h = 0.0; I_P = 1.5

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Description	Notes	UUT
		Depth	Width	Height				
Power Modules - IGBT PS (Rockwell Automation)	20-750-MI1-C540D505	20.7	9.1	59.1	168	Converter: 400/480 VAC, 336/361 kW Inverter: 540/650 VDC, 315 kW/400 hp	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.
	20-750-MI1-C585D545	20.7	9.1	59.1	185	Converter: 400/480 VAC, 364/390 kW Inverter: 540/650 VDC, 315 kW/450 hp	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.
	20-750-MI1-C650D617	20.7	9.1	59.1	185	Converter: 400/480 VAC, 405/442 kW Inverter: 540/650 VDC, 355 kW/500 hp	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.
	20-750-MI1-C750D710	20.7	9.1	59.1	185	Converter: 400/480 VAC, 467/508 kW Inverter: 540/650 VDC, 400 kW/600 hp	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.
	20-750-MI1-C770D740	20.7	9.1	59.1	185	Converter: 400/480 VAC, 479/529 kW Inverter: 540/650 VDC, 400 kW/650 hp	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	1B
	20-750-MI1-E242F215	20.7	9.1	59.1	168	Converter: 600/690 VAC, 217/221 kW Inverter: 810/932 VDC, 250 hp/200 kW	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.[1]
	20-750-MI1-E295F265	20.7	9.1	59.1	168	Converter: 600/690 VAC, 363/272 kW Inverter: 810/932 VDC, 300 hp/250 kW	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.[1]
	20-750-MI1-E355F330	20.7	9.1	59.1	168	Converter: 600/690 VAC, 317/339 kW Inverter: 810/932 VDC, 350 hp/315 kW	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.[1]
	20-750-MI1-E395F370	20.7	9.1	59.1	168	Converter: 600/690 VAC, 353/380 kW Inverter: 810/932 VDC, 400 hp/355 kW	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.[1]
	20-750-MI1-E409F390	20.7	9.1	59.1	179	Converter: 600/690 VAC, 365/400 kW Inverter: 810/932 VDC, 423 hp/376 kW	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.[1]

Notes:
1. "E" units only differ by operating Voltage rating. They have same construction and similar weight as other units and only differ in software.

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2201353

TRU COMPLIANCE

Manufacturer:	Rockwell Automation	***Table Description:*** Power Bay Subcomponents	**TABLE 3**
Model Line:	PowerFlex 755T Drive Systems		

Building Code: CBC 2022 ***Seismic Certification Limits:*** S_{DS} = 2.29 g z/h = 1.0 I_P = 1.5; S_{DS} = 2.29 g z/h = 0.0

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Description	Notes	UUT
		Depth	Width	Height				
Power Modules - IGBT PS (Rockwell Automation)	20-750-MI1-E435F415	20.7	9.1	59.1	179	Converter: 600/690 VAC, 389/426 kW Inverter: 810/932 VDC, 450 hp/400 kW	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.[1]
	20-750-MI1-E545F505	20.7	9.1	59.1	179	Converter: 600/690 VAC, 487/518 kW Inverter: 810/932 VDC, 550 hp/500 kW	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.[1]
	20-750-MI1-E545F505C	20.7	9.1	59.1	179	Converter: 600/690 VAC, 487/518 kW Inverter: 810/932 VDC, 550 hp/500 kW	20-750-MI1-* is only option for Frame 8 AFE Power Bays.	Interp.[1]
	20-750-MI2-C302D302	20.7	9.1	59.1	186	Converter: 400/480 VAC, 188/216 kW Inverter: 540/650 VDC, 160 kW/250 hp		Interp.
	20-750-MI2-C367D361	20.7	9.1	59.1	186	Converter: 400/480 VAC, 228/258 kW Inverter: 540/650 VDC, 200 kW/300 hp		Interp.
	20-750-MI2-C460D430	20.7	9.1	59.1	186	Converter: 400/480 VAC, 286/307 kW Inverter: 540/650 VDC, 250 kW/650 hp		Interp.
	20-750-MI2-C540D505	20.7	9.1	59.1	186	Converter: 400/480 VAC, 336/361 kW Inverter: 540/650 VDC, 315 kW/400 hp		Interp.
	20-750-MI2-C585D545	20.7	9.1	59.1	200	Converter: 400/480 VAC, 364/390 kW Inverter: 540/650 VDC, 315 kW/450 hp		Interp.
	20-750-MI2-C650D617	20.7	9.1	59.1	200	Converter: 400/480 VAC, 405/442 kW Inverter: 540/650 VDC, 355 kW/500 hp		Interp.
	20-750-MI2-C750D710	20.7	9.1	59.1	200	Converter: 400/480 VAC, 467/508 kW Inverter: 540/650 VDC, 400 kW/600 hp		Interp.

Notes:
1. "E" units only differ by operating Voltage rating. They have same construction and similar weight as other units and only differ in software.

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2201353

TRU COMPLIANCE

Manufacturer: Rockwell Automation
Model Line: PowerFlex 755T Drive Systems
Table Description: Power Bay Subcomponents

TABLE 3

Building Code: CBC 2022
Seismic Certification Limits: S_{DS} = 2.29 g z/h = 1.0 I_P = 1.5
S_{DS} = 2.29 g z/h = 0.0

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Description	Notes	UUT
		Depth	Width	Height				
Power Modules - IGBT PS (Rockwell Automation)	20-750-MI2-E242F215	20.7	9.1	59.1	184	Converter: 600/690 VAC, 217/221 kW Inverter: 810/932 VDC, 250 hp/200 kW		Interp.[1]
	20-750-MI2-E295F265	20.7	9.1	59.1	184	Converter: 600/690 VAC, 363/272 kW Inverter: 810/932 VDC, 300 hp/250 kW		Interp.[1]
	20-750-MI2-E355F330	20.7	9.1	59.1	184	Converter: 600/690 VAC, 317/339 kW Inverter: 810/932 VDC, 350 hp/315 kW		Interp.[1]
	20-750-MI2-E395F370	20.7	9.1	59.1	184	Converter: 600/690 VAC, 353/380 kW Inverter: 810/932 VDC, 400 hp/355 kW		Interp.[1]
	20-750-MI2-E409F390	20.7	9.1	59.1	197	Converter: 600/690 VAC, 365/400 kW Inverter: 810/932 VDC, 423 hp/376 kW		Interp.[1]
	20-750-MI2-E435F415	20.7	9.1	59.1	197	Converter: 600/690 VAC, 389/426 kW Inverter: 810/932 VDC, 450 hp/400 kW		Interp.[1]
	20-750-MI2-E545F505	20.7	9.1	59.1	197	Converter: 600/690 VAC, 487/518 kW Inverter: 810/932 VDC, 550 hp/500 kW		Interp.[1]
	20-750-MI2-E545F505C	20.7	9.1	59.1	197	Converter: 600/690 VAC, 487/518 kW Inverter: 810/932 VDC, 550 hp/500 kW		Interp.[1]
	20-750-MI3-C302D302	20.7	9.1	59.1	250	Inverter: 540/650 VDC, 160 kW/250 hp		Interp.
	20-750-MI3-C367D361	20.7	9.1	59.1	250	Inverter: 540/650 VDC, 200 kW/300 hp		Interp.
	20-750-MI3-C460D430	20.7	9.1	59.1	250	Inverter: 540/650 VDC, 250 kW/650 hp		Interp.
	20-750-MI3-C540D505	20.7	9.1	59.1	250	Inverter: 540/650 VDC, 315 kW/400 hp		Interp.
	20-750-MI3-C585D545	20.7	9.1	59.1	267	Inverter: 540/650 VDC, 315 kW/450 hp		Interp.

Notes:
1. "E" units only differ by operating Voltage rating. They have same construction and similar weight as other units and only differ in software.

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2201353

TRU COMPLIANCE

Manufacturer: Rockwell Automation
Model Line: PowerFlex 755T Drive Systems

Table Description: Power Bay Subcomponents

TABLE 3

Building Code: CBC 2022

Seismic Certification Limits: S_{DS} = 2.29 g z/h = 1.0; S_{DS} = 2.29 g z/h = 0.0; I_P = 1.5

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Description	Notes	UUT
		Depth	Width	Height				
Power Modules - IGBT PS (Rockwell Automation)	20-750-MI3-C650D617	20.7	9.1	59.1	267	Inverter: 540/650 VDC, 355 kW/500 hp		Interp.
	20-750-MI3-C750D710	20.7	9.1	59.1	267	Inverter: 540/650 VDC, 400 kW/600 hp		Interp.
	20-750-MI3-C770D740	20.7	9.1	59.1	267	Inverter: 540/650 VDC, 400 kW/650 hp		2B
	20-750-MI3-E242F215	20.7	9.1	59.1	250	Inverter: 810/932 VDC, 250 hp/200 kW		Interp.[1]
	20-750-MI3-E295F265	20.7	9.1	59.1	250	Inverter: 810/932 VDC, 300 hp/250 kW		Interp.[1]
	20-750-MI3-E355F330	20.7	9.1	59.1	250	Inverter: 810/932 VDC, 350 hp/315 kW		Interp.[1]
	20-750-MI3-E395F370	20.7	9.1	59.1	250	Inverter: 810/932 VDC, 400 hp/355 kW		Interp.[1]
	20-750-MI3-E409F390	20.7	9.1	59.1	261	Inverter: 810/932 VDC, 423 hp/376 kW		Interp.[1]
	20-750-MI3-E435F415	20.7	9.1	59.1	261	Inverter: 810/932 VDC, 450 hp/400 kW		Interp.[1]
	20-750-MI3-E545F505	20.7	9.1	59.1	261	Inverter: 810/932 VDC, 550 hp/500 kW		Interp.[1]
	20-750-MI3-E545F505C	20.7	9.1	59.1	261	Inverter: 810/932 VDC, 550 hp/500 kW		Interp.[1]

Notes:
1. "E" units only differ by operating Voltage rating. They have same construction and similar weight as other units and only differ in software.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2201353

Manufacturer: Rockwell Automation

Model Line: PowerFlex 755T Drive Systems

UUT	Unit Description	Report Number	Testing Lab	Year Tested	ISO 17025 Accredited?	S_{DS}	z/h	I_P
1A	IP21 Frame 8 Input Bay	PR052727-TR-17	NTS - Huntsville	2017	Yes	2.29 2.29	1.0 0.0	1.5
1B	IP21 Frame 8 Bus Supply Power Bay	PR052727-TR-17	NTS - Huntsville	2017	Yes	2.29 2.29	1.0 0.0	1.5
2A	IP21 Control Bay	PR052727-TR-17	NTS - Huntsville	2017	Yes	2.29 2.29	1.0 0.0	1.5
2B	IP21 Frame 8 CBI Power Bay	PR052727-TR-17	NTS - Huntsville	2017	Yes	2.29 2.29	1.0 0.0	1.5

Notes:

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2201353

UUT 1A

Manufacturer: Rockwell Automation
Model Line: PowerFlex 755T Drive Systems
Model Number: IP21 Frame 8 Input Bay

Product Construction Summary:
NEMA/UL Type 1 Cold Formed Carbon Steel

Options/Subcomponent Summary:
AC Precharge Modules: 20-750-MACP-CD-F8M (Rockwell Automation); **Circuit Breakers:** T7MLBP3DB0HBDHHEC (ABB); **Fused Disconnects:** 194R-J30-1753-PBS1 (Rockwell Automation); **Contactors:** 100-C30KA-10 (Rockwell Automation); **ACPC Accessories:** 20-750-MACP-CD-TVSS (Rockwell Automation), 20-750-MACPC1-CD (Rockwell Automation), 20-750-MFTB1-F8 (Rockwell Automation); **Control Pods:** 20-750-MCPOD1-F8M (Rockwell Automation); **Seismic Kit:** 20-750-MOSHPD-F8M (Rockwell Automation)

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
462	26.4	15.7	83.9	3.8	3.6	19.0

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	2.29	1.0	1.5	3.66	2.75	1.53	0.61
		2.29	0.0					

Test Mounting Details:

UUT1A was base mounted rigid using four (4) class 8.8 M12-1.75 x 50 mm hex head bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2201353

UUT 1B

Manufacturer: Rockwell Automation
Model Line: PowerFlex 755T Drive Systems
Model Number: IP21 Frame 8 Bus Supply Power Bay

Product Construction Summary:
NEMA/UL Type 1 Cold Formed Carbon Steel

Options/Subcomponent Summary:
Power Modules (IGBT PS): 20-750-MI1-C770D740 (Rockwell Automation); **LCL Filter Modules:** 20-750-ML1-C770D740 (Rockwell Automation); **DC Bus Conditioners:** 20-750-MDCBUS-COND (Rockwell Automation);
DC Link/Fuse Modules: 20-750-MDCL1-CD-F8M (Rockwell Automation); **Seismic Kits:** 20-750-MOSHPD-F8M (Rockwell Automation)

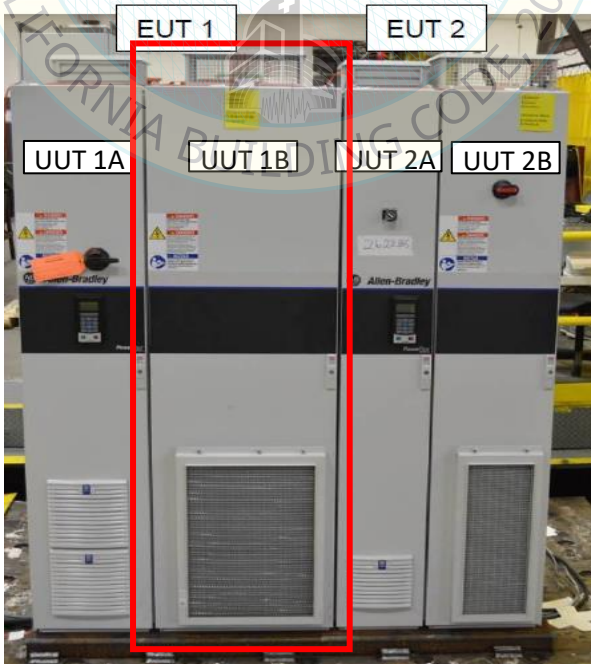
UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1,102	26.4	23.6	83.9	3.8	3.6	19.0

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	2.29	1.0	1.5	3.66	2.75	1.53	0.61
		2.29	0.0					

Test Mounting Details:



UUT1B was base mounted rigid using four (4) class 8.8 M12-1.75 x 50 mm hex head bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2201353

UUT 2A

Manufacturer: Rockwell Automation
Model Line: PowerFlex 755T Drive Systems
Model Number: IP21 Control Bay

Product Construction Summary:
NEMA/UL Type 1 Cold Formed Carbon Steel

Options/Subcomponent Summary:
Control Pods: 20-750-MCPOD1-F8M (Rockwell Automation); **Seismic Kits:** 20-750-MOSHPD-F8M (Rockwell Automation)

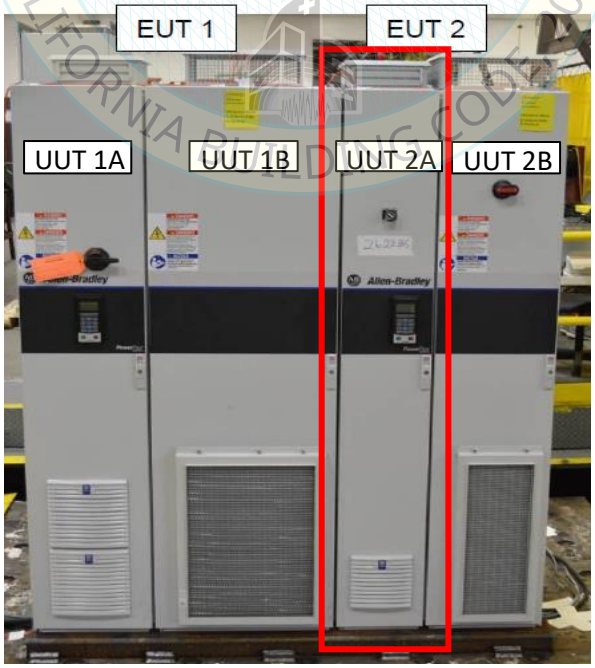
UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
180	26.4	11.8	83.9	8.0	3.6	>33.3

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	2.29	1.0	1.5	3.66	2.75	1.53	0.61
		2.29	0.0					

Test Mounting Details:



UUT2A was base mounted rigid using four (4) class 8.8 M12-1.75 x 50 mm hex head bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2201353

UUT 2B

Manufacturer: Rockwell Automation
Model Line: PowerFlex 755T Drive Systems
Model Number: IP21 Frame 8 CBI Power Bay

Product Construction Summary:
NEMA/UL Type 1 Cold Formed Carbon Steel

Options/Subcomponent Summary:
Power Modules (IGBT PS): 20-750-MI3-C770D740 (Rockwell Automation); **DC Precharge Modules:** 20-750-MDCP2-CD-F8M (Rockwell Automation); **Torque Accuracy Module:** 20-750-MTAM1-CD (Rockwell Automation);
Seismic Kits: 20-750-MOSHPD-F8M (Rockwell Automation)

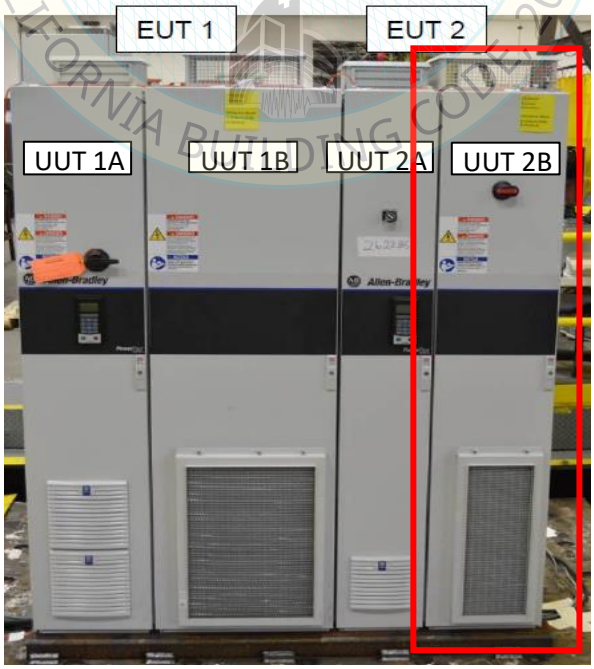
UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
825	26.4	15.7	83.9	8.0	3.6	>33.3

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	2.29	1.0	1.5	3.66	2.75	1.53	0.61
		2.29	0.0					

Test Mounting Details:



UUT2B was base mounted rigid using four (4) class 8.8 M12-1.75 x 50 mm hex head bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.