



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: OSP – 0420

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Siemens Industry, Inc.

Manufacturer's Technical Representative: Vincent Baroncini

Mailing Address: 8 Fernwood Road, Florham Park, NJ 07932

Telephone: 973.593.2682

Email: Vincent.baroncini@siemens.com

Product Information

Product Name: Siemens Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels

Product Type: Fire Voice Alarm Control Panel

Product Model Number: Various (See Attachment)

(List all unique product identification numbers and/or part numbers)

General Description: Fire Voice Alarm Control Panel with internal and external components as shown in the attachment.

Mounting Description: Wall Mounted - Rigid

Applicant Information

Applicant Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

Contact Person: Galen Reid

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

Telephone: 541-604-7225

Email: greid@structint.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

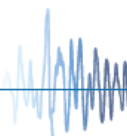
Signature of Applicant: 

Date: 9/4/2019

Title: Program Manager

Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

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

Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

Name: Andrew Coughlin, SE California License Number: S6082

Mailing Address: 5215 Hellyer Ave, Suite 210, San Jose, CA 94608

Telephone: (844) 878-0200 Email: acoughlin@structint.com

Supports and Attachments Preapproval

- Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

Certification Method

- Testing in accordance with: ICC-ES AC156
- Other (Please Specify): _____

BY: Mohammad Aliaari

DATE: 09/11/2020

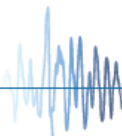
Testing Laboratory

Company Name: National Technical Systems, Inc.

Contact Name: Ratish Rao

Mailing Address: 1536 East Valencia Drive, Fullerton, CA 92831

Telephone: (714) 879-6110 Email: Ratish.rao@nts.com





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: [X] Yes [] No

Design Basis of Equipment or Components (Fp/Wp) = 1.88

Sds (Design spectral response acceleration at short period, g) = 2.50

ap (In-structure equipment or component amplification factor) = 2.5

Rp (Equipment or component response modification factor) = 6.0

Omega_0 (System overstrength factor) = 2.0

Ip (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See Attachment

Overall dimensions and weight (or range thereof) = See Attachment

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: [] Yes [X] No

Design Basis of Equipment or Components (V/W) =

Sds (Design spectral response acceleration at short period, g) =

Sd1 (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Omega_0 (System overstrength factor) = by: Mohammad Aliaari

Cd (Deflection amplification factor) =

Ip (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component Natural Frequencies (Hz) =

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2015: [] Yes [] No

List of Attachments Supporting Special Seismic Certification

[X] Test Report(s) [] Drawings [] Calculations [X] Manufacturer's Catalog

[X] Other(s) (Please Specify): Product Matrices

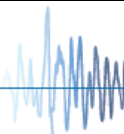
OSHPD Approval (For Office Use Only) - Approval Expires on December 31, 2025

Signature: M. Aliaari Date: September 11, 2020

Print Name: Mohammad Aliaari Title: SSE

Special Seismic Certification Valid Up to : Sds (g) = 2.50 z/h = 1.0

Condition of Approval (if applicable):



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX



1801452-CR-002 R0

Manufacturer: Siemens Industry, Inc.	TABLE 1
Model Line: Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels	

Certified Product Construction Summary:
16 GA carbon steel NEMA Type 1 enclosure (Red or Black). Hinged doors with key lock.

Certified Options Summary:
See table 2 for a complete listing of certified components and options.

Mounting Configuration:
Wall mounted - rigid
Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 2.5g$ $z/h = 1.0$ $I_p = 1.5$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Desigo FV2025 & FV2050	Three Height Enclosure	7.8	21.0	42.0	129		1
	Two Height Enclosure	6.0	21.0	28.0	52		2
	One Height Enclosure	4.5	21.0	15.0	25		3
	One Height Enclosure	4.5	21.0	15.0	23		4
	One Height Enclosure (Booster Amp)	4.5	21	15	52		5

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1801452-CR-002 R0

SIEMENS



Manufacturer: Siemens Industry, Inc.	Table Description: Panel Components	TABLE 2
Model Line: Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels		

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 2.5g$ $z/h = 1.0$ $I_p = 1.5$

Component Type	Manufacturer	Model	Description	Notes	UUT
Three Height Enclosure	Siemens Industry, Inc.	FHB2005-U1	Back Box		1
		FHB2005-R1	Back Box	Similar to FHB2005-U1 (color)	Interp.
		FHD2004-U1	Inner Door		1
		FHD2006-U1	Clear Lens		1
		FHD2009-U1	Blank Plate		1
		FHD2009-R1	Blank Plate	Similar to FHD2009-U1 (color)	Interp.
		FHA2042-U1	Battery Bracket		1
		FHD2007-U2	Outer Door		1
		FHD2007-R2	Outer Door	Similar to FHD2007-U2 (color)	Interp.
		FHD2007-U3	Outer Door	Similar to FHD2007-U2 (label)	Interp.
		FHD2007-R3	Outer Door	Similar to FHD2007-U2 (color, label)	Interp.
Two Height Enclosure	Siemens Industry, Inc.	FHB2002-U1	Back Box		2
		FHB2002-R1	Back Box	Similar to FHD2002-U1 (color)	Interp.
		FHD2004-U1	Inner Door		2
		FHD2006-U1	Clear Lens		2
		FHD2003-U2	Outer Door (2 Windows)		2
		FHD2003-R2	Outer Door (2 Windows)	Similar to FHD2003-U2 (color)	Interp.
		FHD2002-U2	Outer Door (1 Windows)	Similar to FHD2003-U2 (window)	Interp.
		FHD2002-R2	Outer Door (1 Windows)	Similar to FHD2003-U2 (window, color)	Interp.

Notes: Suffix "2" at end of model number represents Desigo branding label.
 Suffix "3" at end of model number represents Cerberus PRO branding label.
 Suffix "1" at end of model number represents universal component.
 "R"=Red, "U"=Black

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1801452-CR-002 R0

SIEMENS



Manufacturer: Siemens Industry, Inc.	Table Description: Panel Components	TABLE 2
Model Line: Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels		

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 2.5g$ $z/h = 1.0$ $I_p = 1.5$

Component Type	Manufacturer	Model	Description	Notes	UUT
Two Height Enclosure	Siemens Industry, Inc.	FHD2003-U3	Outer Door (2 Windows)	Similar to FHD2003-U2 (label)	Interp.
		FHD2003-R3	Outer Door (2 Windows)	Similar to FHD2003-U2 (color, label)	Interp.
		FHD2002-U3	Outer Door (1 Windows)	Similar to FHD2003-U2 (window, label)	Interp.
		FHD2003-R3	Outer Door (1 Windows)	Similar to FHD2003-U2 (color, label)	Interp.
One Height Enclosure	Siemens Industry, Inc.	FHB2001-U1	Back Box		3
		FHB2001-R1	Back Box	Similar to FHB2001-U1 (color)	Interp.
		FHD2012-U1	Inner Door		3
		FHD2001-U2	Outer Door		3, 4
		FHD2001-R2	Outer Door	Similar to FHD2001-U2 (color)	Interp.
		FHD2001-U3	Outer Door	Similar to FHD2001-U2 (label)	Interp.
		FHD2001-R3	Outer Door	Similar to FHD2001-U2 (color, label)	Interp.
		FHB2001-U1	Back Box		4
One Height Enclosure (Booster Amp)	Siemens Industry, Inc.	EBA2001-U1	Booster Amplifier Enclosure		5
		EBA2001-R1	Booster Amplifier Enclosure	Similar to EBA2001-U1 (color)	Interp.
Panel Components	Siemens Industry, Inc.	FCM2019-U2	Operating Unit with LED		1
		FCM2019-U3	Operating Unit with LED	Similar to FCM2019-U2 (label)	Interp.
		VTO2004-U2	Option Module Microphone		1, 2
		VTO2004-U3	Option Module Microphone	Similar to VTO2004-U2 (label)	Interp.

Notes: Suffix "2" at end of model number represents Desigo branding label.
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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1801452-CR-002 R0

SIEMENS



Manufacturer: Siemens Industry, Inc.	Table Description: Panel Components	TABLE 2
Model Line: Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels		

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 2.5g$ $z/h = 1.0$ $I_p = 1.5$

Component Type	Manufacturer	Model	Description	Notes	UUT
Panel Components	Siemens Industry, Inc.	VTO2001-U2	Option Module 24 Switches		1, 2
		VTO2001-U3	Option Module 24 Switches	Similar to VTO2001-U2 (label)	Interp.
		FCM2022-U2	Blank Option Module		1, 2
		FCM2022-U3	Blank Option Module	Similar to FCM2022-U2 (label)	Interp.
		FHA2031-U1	Optional DIN Rail Module		1
		FCI2017-U1	Periphery Board (504 point)		1
		FP2013-U1	600W Power Supply Set		1
		VCA2002-A1	Voice Card Cage (up to 4 VCI2001-A1 Amp Cards)		1
		VCC2001-A1	Voice CPU Card		1
		VCC2002-A1	Voice I/O Card		1
		VCI2003-A1	VoIP Module		1
		VCI2001-A1	Voice Amplifier Card (25V/70V)		1
		VN2001-A1	Ethernet Module Electric or (VN2002-A1 Multi-mode/VN2003A1 Single-mode Ethernet modules)		1
		FCA2031-U1	Connection Module (MoNet)		1, 2
		BTX-1	24V 33AH Battery Set		1
		FCA2032-U1	Battery Disconnect Module		1
FCM2018-U2	Operating Unit		2		

Notes: Suffix "2" at end of model number represents Desigo branding label. Suffix "A" at end of model number represents global product
 Suffix "3" at end of model number represents Cerberus PRO branding label.
 Suffix "1" at end of model number represents universal component.
 "R"=Red, "U"=Black

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1801452-CR-002 R0

SIEMENS



Manufacturer: Siemens Industry, Inc.	Table Description: Panel Components	TABLE 2
Model Line: Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels		

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 2.5g$ $z/h = 1.0$ $I_p = 1.5$

Component Type	Manufacturer	Model	Description	Notes	UUT
Panel Components	Siemens Industry, Inc.	FCM2018-U3	Operating Unit	Similar to FCM2018-U2 (label)	Interp.
		FN2012-U1	Ethernet Switch module		2
		VTA2001-A1	Remote Terminal Board		2
		FTI2001-U1	Fire Terminal Board		2
		FT2015-U2	Remote Display Terminal (3-buttons)		3
		FT2015-R2	Remote Display Terminal (3-buttons)	Similar to FT2015-U2 (color)	Interp.
		FT2014-U2	Remote Display Terminal (1-button)	Similar to FT2015-U2 (# of buttons)	Interp.
		FT2014-R2	Remote Display Terminal (1-button)	Similar to FT2015-U2 (# of buttons, color)	Interp.
		FT2015-U3	Remote Display Terminal (3-buttons)	Similar to FT2015-U2 (label)	Interp.
		FT2015-R3	Remote Display Terminal (3-buttons)	Similar to FT2015-U2 (color, label)	Interp.
		FT2014-U3	Remote Display Terminal (1-button)	Similar to FT2015-U2 (# of buttons, label)	Interp.
		FT2014-R3	Remote Display Terminal (1-button)	Similar to FT2015-U2 (# of buttons, color)	Interp.
		FT2003-U1	Graphics In/Out Driver		4

Notes: Suffix "2" at end of model number represents Desigo branding label. Suffix "A" at end of model number represents global product
 Suffix "3" at end of model number represents Cerberus PRO branding label.
 Suffix "1" at end of model number represents universal component.
 "R"=Red, "U"=Black

UNIT UNDER TEST (UUT) SUMMARY SHEET

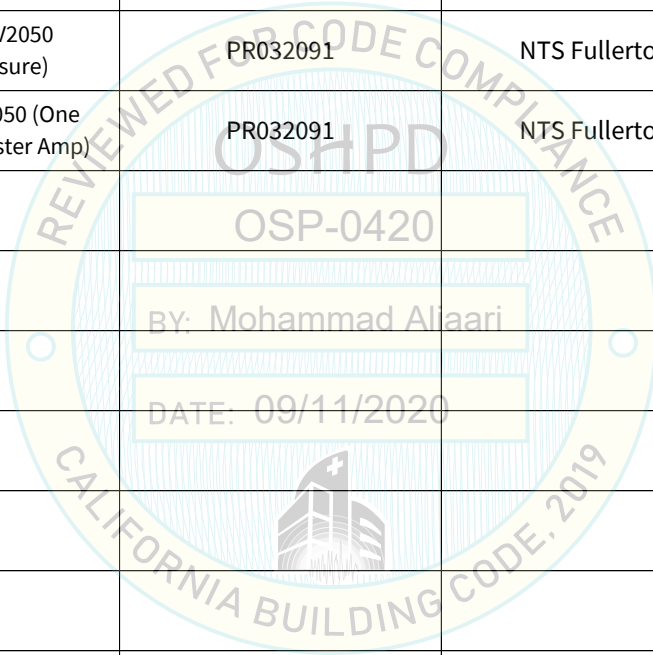


1801452-CR-002 R0

Manufacturer: Siemens Industry, Inc.

Model Line: Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels

UUT	Unit Description	Report Number	Testing Laboratory	S _{DS}	z/h	I _p
1	Desigo FV2025 & FV2050 (Three Height Enclosure)	PR032091	NTS Fullerton	2.5	1	1.5
2	Desigo FV2025 & FV2050 (Two Height Enclosure)	PR032091	NTS Fullerton	2.5	1	1.5
3	Desigo FV2025 & FV2050 (One Height Enclosure)	PR032091	NTS Fullerton	2.5	1	1.5
4	Desigo FV2025 & FV2050 (One Height Enclosure)	PR032091	NTS Fullerton	2.5	1	1.5
5	Desigo FV2025 & FV2050 (One Height Enclosure-Booster Amp)	PR032091	NTS Fullerton	2.5	1	1.5



Notes:

UNIT UNDER TEST (UUT) SUMMARY SHEET

SIEMENS



1801452-CR-002 R0

Manufacturer: Siemens Industry, Inc.	UUT 1
Model Line: Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels	
Model Number: Three Height Enclosure Serial Number: N/A	

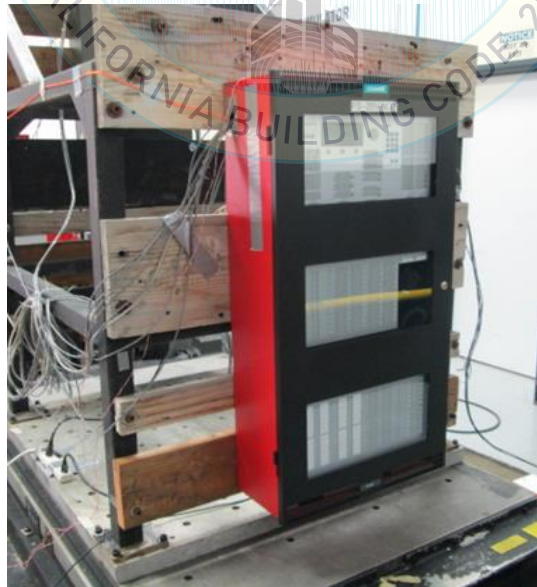
Product Construction Summary:
16 GA carbon steel NEMA Type 1 enclosure (Red). Hinged doors with key lock.

Options/Subcomponent Summary:
FHB2005-U1, FHD2004-U1, FHD2006-U1, FHD2009-U1, FHA2042-U1, FHD2007-U2, FCM2019-U2, VTO2004-U2, VTO2001-U2, FCM2022-U2, FHA2031-U1, FCI2017-U1, FP2013-U1, VCA2002-A1, VCC2001-A1, VCC2002-A1, VCI2003-A1, VCI2001-A1, VN2001-A1, FCA2031-U1, BTX-1, FCA2032-U1

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
129	7.8	21	42	N/A	N/A	N/A

<i>UUT Highest Passed Seismic Run Information</i>								
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 2019	ICC-ES AC156 (2018)	2.5	1.0	1.5	4	3	1.67	0.67

Test Mounting Details:



UUT wall mounted to the test fixture using seven (7) 5/16" Diameter Grade 8 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

SIEMENS



1801452-CR-002 R0

UUT 2

Manufacturer: Siemens Industry, Inc.
Model Line: Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels
Model Number: Two Height Enclosure **Serial Number:** N/A

Product Construction Summary:
 16 GA carbon steel NEMA Type 1 enclosure (Black). Hinged doors with key lock.

Options/Subcomponent Summary:
 FHB2002-U1, FHD2004-U1, FHD2006-U1, FHD2003-U2, VTO2004-U2, VTO2001-U2, FCM2022-U2, FCA2031-U1, FCM2018-U2, FN2012-U1, VTA2001-A1, FTI2001-U1

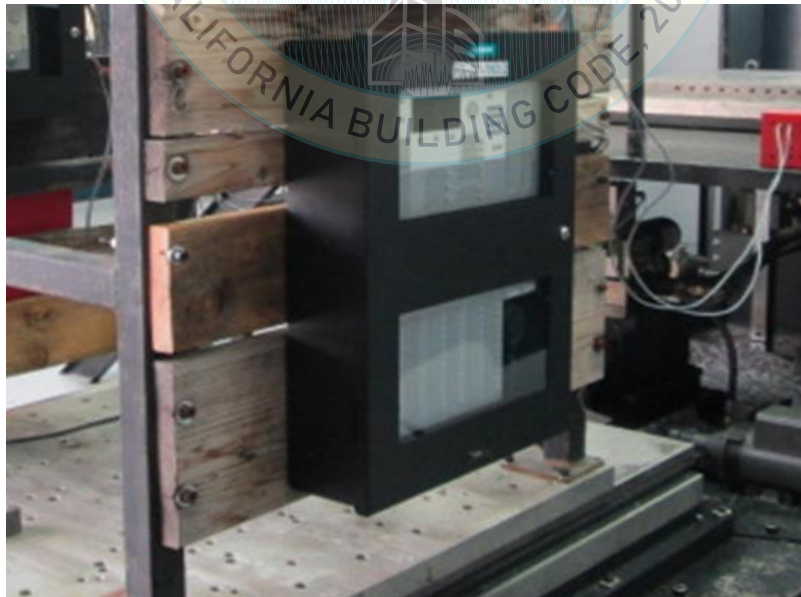
UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
52	6	21	28	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 2019	ICC-ES AC156 (2018)	2.5	1.0	1.5	4	3	1.67	0.67

Test Mounting Details:



UUT wall mounted to the test fixture using seven (6) 5/16" Diameter Grade 8 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

SIEMENS



1801452-CR-002 R0

Manufacturer: Siemens Industry, Inc.	UUT 3
Model Line: Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels	
Model Number: One Height Enclosure Serial Number: N/A	

Product Construction Summary:
16 GA carbon steel NEMA Type 1 enclosure (Black). Hinged doors with key lock.

Options/Subcomponent Summary:
FHB2001-U1, FHD2012-U1, FHD2001-U2, FT2015-U2

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
25	4.5	21	15	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 2019	ICC-ES AC156 (2018)	2.5	1.0	1.5	4	3	1.67	0.67

Test Mounting Details:



UUT wall mounted to the test fixture using seven (4) 5/16" Diameter Grade 8 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

SIEMENS



1801452-CR-002 R0

UUT 4

Manufacturer: Siemens Industry, Inc.
Model Line: Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels
Model Number: One Height Enclosure **Serial Number:** N/A

Product Construction Summary:
 16 GA carbon steel NEMA Type 1 enclosure (Black). Hinged doors with key lock.

Options/Subcomponent Summary:
 FHD2001-U2, FHB2001-U1, FHD2012-U1, FT2003-U1

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
23	4.5	21	15	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 2019	ICC-ES AC156 (2018)	2.5	1.0	1.5	4	3	1.67	0.67

Test Mounting Details:



UUT wall mounted to the test fixture using seven (4) 5/16" Diameter Grade 8 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

SIEMENS



1801452-CR-002 R0

UUT 5

Manufacturer: Siemens Industry, Inc.
Model Line: Desigo FV2025 & FV2050 Fire Voice Alarm Control Panels
Model Number: One Height Enclosure (Booster Amp) **Serial Number:** N/A

Product Construction Summary:
 16 GA carbon steel NEMA Type 1 enclosure (Black). Hinged doors with key lock.

Options/Subcomponent Summary:
 EBA2001-U1

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
52	4.5	21	15	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 2019	ICC-ES AC156 (2018)	2.5	1.0	1.5	4	3	1.67	0.67

Test Mounting Details:



UUT wall mounted to the test fixture using seven (4) 5/16" Diameter Grade 8 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.