



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

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

OFFICE USE ONLY

APPLICATION #: OSP – 0218-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Siemens Industry, Inc.

Manufacturer's Technical Representative: Mike Schuler

Mailing Address: 1000 Deerfield Parkway, Buffalo Grove, IL 60089-4547

Telephone: 847.941.5764 Email: mike.schuler@siemens.com

Product Information

Product Name: TC & TNM Series Controllers

Product Type: Building Automation System

Product Model Number: Various – See Attachments
(List all unique product identification numbers and/or part numbers)

General Description: TALON Building Automation System Controllers. See attachments for a listing of certified
Internal components.

Mounting Description: Rigid Wall Mounted

Applicant Information

Applicant Company Name: TRU Compliance, LLC

Contact Person: Derrick A. Watkins, PhD, S.E.

Mailing Address: 960 SW Disk Dr., Suite 104, Bend, OR 97702

Telephone: 844.878.0200 Email: dwatkins@trucompliance.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: 12/12/2016

Title: Executive Vice President Company Name: TRU Compliance, LLC

"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, LLC

Name: Derrick A. Watkins, PhD, S.E. California License Number: S5257

Mailing Address: 960 SW Disk Dr., Suite 104, Bend, OR 97702

Telephone: 844.878.0200 Email: dwatkins@trucompliance.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): _____

Testing Laboratory

Company Name: Clark Testing

Contact Name: Robert Francis

Mailing Address: 1801 Route 51 South, Building 8, Jefferson Hills, PA 15025

Telephone: 412.387.1001 Email: rfrancis@clarktesting.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) = 1.87

Sds (Design spectral response acceleration at short period, g) = 2.5

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 attached

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

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) =

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

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

[X] Other(s) (Please Specify): Attachment A

OSHPD Approval (For Office Use Only) - Approval Expires on December 31, 2022

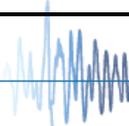
Signature: [Handwritten Signature] Date: 12/27/2016

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : Sds (g) = 2.5 z/h = 1.0

Condition of Approval (if applicable):

[Blank lines for condition of approval]



SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16042



Manufacturer: Siemens Industry, Inc.		Table Description: TALON TC Series Controllers			TABLE 3
Model Line: TC & TNM Series Controllers					
Building Code: IBC 2015		Seismic Certification Limits: $S_{DS} = 2.5g$ $z/h = 1.0$ $I_p = 1.5$			
Component Type	Manufacturer	Model	Description	Notes	UUT
TC Modular Series Controllers	Siemens	TC1100-E96.T	TALON MODULAR, TX I/O		1
		TC1000-E96.T	TALON MODULAR	Same construction as TC1100-E96.T	Interp.
TC Compact Series Controllers	Siemens	TC16.2-EF.T	TALON 16PT, BACNET ETHERNET, RS485	Same construction as TC24.3-UCMR.T	Interp.
		TC16.2-EF32.T	TALON 16PT BACNET IP RS485 ENABLED	Same construction as TC24.3-UCMR.T	Interp.
		TC16.2-M.T	TALON 16PT, BACNET MS/TP	Same construction as TC24.3-UCMR.T	Interp.
		TC16.3-UCM.T	TALON 16 PT, UEC BAC MSTP RS485	Same construction as TC24.3-UCMR.T	Interp.
		TC16.3-UCMR.T	TALON 16 PT, UEC BAC MSTP RS485,ROOFTOP	Same construction as TC24.3-UCMR.T	Interp.
		TC24.2-EF.T	TALON 24PT, BACNET ETHERNET, RS485	Same construction as TC24.3-UCMR.T	Interp.
		TC24.2-EF32.T	TALON 24PT BACNET IP RS485 ENABLED	Same construction as TC24.3-UCMR.T	Interp.
		TC24.2-ERF.T	TALON 24PT, BACNET ETHERNET, RS485, ROOF	Same construction as TC24.3-UCMR.T	Interp.
		TC24.2-M.T	TALON 24PT, BACNET MS/TP	Same construction as TC24.3-UCMR.T	Interp.
		TC24.2-MR.T	TALON 24PT, BACNET MS/TP, ROOFTOP	Same construction as TC24.3-UCMR.T	Interp.
		TC24.3-UCM.T	TALON 24PT,TC UNITARY EQPT BAC MSTP	Same construction as TC24.3-UCMR.T	Interp.
		TC24.3-UCMR.T	TALON 24 PT, UEC BAC MSTP RS485,ROOFTOP		3
		TC36-E.T	TALON 36PT, BACNET IP/ MSTP	Same Construction as TC36-EF.T	Interp.
		TC36-EF.T	TALON 36PT, BACNET IP/MSTP, TXIO, RS485		3
PX Accessories	Siemens	PXA-HMI	Remote kit and cables		3
		PXM10 Tiny	Operator Display Panel		3
		PXA8	Hand Off Auto (HOA) 8 switch	Same construction as PXA16	Interp.
		PXA16	Hand Off Auto (HOA) 16 switch		3
TX-I/O Product Range	Siemens	TXM1.6R	6 relay output module		1
		TXM1.6R-M	6 relay output module with manual override		1,3
		TXM1.8D	8 digital input module		1

TRU Compliance, LLC - A Tobolski Watkins Affiliate
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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16042



Manufacturer: Siemens Industry, Inc.		Table Description: TALON TC Series Controllers			TABLE 3
Model Line: TC & TNM Series Controllers					
Building Code: IBC 2015		Seismic Certification Limits: $S_{DS} = 2.5g$ $z/h = 1.0$			$I_p = 1.5$
Component Type	Manufacturer	Model	Description	Notes	UUT
TX-I/O Product Range	Siemens	TXM1.16D	16 digital input module		1
		TXM1.8U	8 univ I/O module (DI, AI, AO)		1
		TXM1.8U-ML	8 univ I/O module (DI, AI, AO) + LOID		1
		TXM1.8X	8 univ I/O module (DI, AI, AO + current)		1
		TXM1.8X-ML	8 univ I/O module (DI, AI, AO + current) + LOID		1,3
		TXB1.P1	TX-I/O Bus interface module		1
		TXB1.P1-4	TX-I/O Bus interface module	Same construction as TXB1.P1	Interp.
		TXS1.12F4	TX-I/O Power Supply 4A		1,3
		TXS1.12F10	TX-I/O Power Supply 10A	Same construction as TXS1.12F4	Interp.
		TXS1.EF4	TX-I/O Bus Connection Module 4A		1,3
		TXS1.EF10	TX-I/O Bus Connection Module 10A	Same construction as TXS1.EF4	Interp.
		TXA1.IBE	Bus expansion module		1
		TXA1.K*	TXIO Address keys		1,3
		TXA1.LL	TXIO Labels		1,3
Point Pickup Module	Siemens	PPM-1U32.PPF	PPM, 1UI, 3 DI, 2 DO, FIXED TB		1
		PPM-1U32.PPR	PPM, 1UI, 3 DI, 2 DO, REMOVABLE TB	Same construction as PPM-1U32.PPF	Interp.
		PPM-1U32.BPF	DIGITAL PPM, 1UI, 3 DI, 2 DO, FIXED TB	Same construction as PPM-2U3322.BPR	Interp.
		PPM-1U32.BPR	DIGITAL PPM, 1UI, 3 DI, 2 DO, REMOVABLE TB	Same construction as PPM-2U3322.BPR	Interp.
		PPM-2U22.BPF	ANALOG PPM, 2UI, 2AI, 2AO, FIXED TB	Same construction as PPM-2U3322.BPR	Interp.
		PPM-2U22.BPR	ANALOG PPM, 2UI, 2AI, 2AO, REMOVABLE TB	Same construction as PPM-2U3322.BPR	Interp.
		PPM-2U3322.BPF	COMBO PPM, 3DI, 3DO, 2UI, 2AI, 2AO, FIXED TB	Same construction as PPM-2U3322.BPR	Interp.
		PPM-2U3322.BPR	COMBO PPM, 3DI, 3DO, 2UI, 2AI, 2AO, REMOVABLE TB		3

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16042



Manufacturer: Siemens Industry, Inc.		Table Description: TNM Series Controllers			TABLE 4	
Model Line: TC & TNM Series Controllers						
Building Code: IBC 2015		Seismic Certification Limits: $S_{DS} = 2.5g$ $z/h = 1.0$			$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
Talon Network managers	Tridium, Inc.	TNM-2	Base controller up to 66 point		Interp.	
		TNM-6	Base controller up to 66 point		2	
		TNM-7	Base controller up to remote 256 point		2	
I/O Modules	Tridium, Inc.	IO-16	Input/Output module 16 points		2	
		IO-34	Input/Output module 34 points		2	
		T-IO-16-485	RS-485 remote I/O module 16 points		2	
Communication option cards	Tridium, Inc.	NPB-LON	Internal Single Port LON		2	
		NPB-MDM	Internal Single Port Modem	Same construction as NPB-2X-485	Interp.	
		NPB-232	Internal Single Port RS-232	Same construction as NPB-2X-485	Interp.	
		NPB-2X-485	Internal Dual Port RS-485	0.5 lbs	2	
Power Supplies	Tridium, Inc.	NPB-PWR	DIN-mountable 24V isolated pwr. module		2	
		NPB-PWR-UN	DIN-mountable, Universal 90-263 VAC input, 15VDC output, 30W power supply		2	
		WPM-US	US Wall Power Module	Same const./fastening tested with DFOTI	Interp.	

UNIT UNDER TEST (UUT) SUMMARY SHEET



TRU PROJECT NO. 16042

Manufacturer: Siemens Industry, Inc.	UUT 1
Model Line: TC & TNM Series Controllers	
Model Number: PX Series 34" Enclosure Serial Number: N/A	

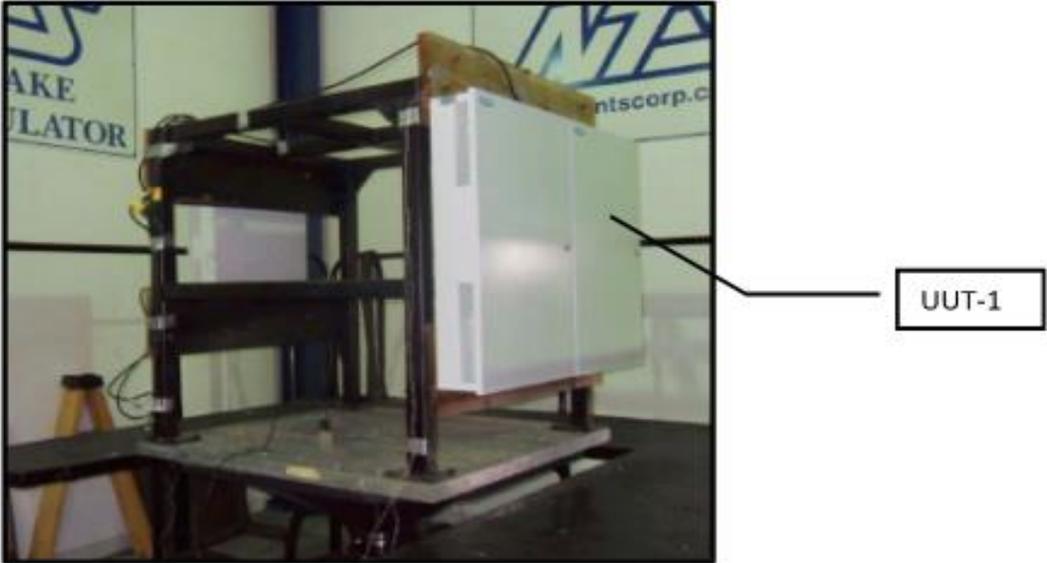
Product Construction Summary:
Carbon steel enclosure. NEMA 1 rated

Options/Subcomponent Summary:
Refer to tables 2-4 for a complete listing of internal components

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
100	5.8	22	34	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 2016	ICC-ES AC156	2.5	1.0	1.5	4.0	3.0	1.67	0.67

Test Mounting Details:



Unit was rigid wall mounted using four (4) 1/4" diameter 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. 16042

Manufacturer: Siemens Industry, Inc.	UUT 2
Model Line: TC & TNM Series Controllers	
Model Number: PX Series 34" Enclosure Serial Number: N/A	

Product Construction Summary:
Carbon steel enclosure. NEMA 1 rated

Options/Subcomponent Summary:
Refer to tables 2-4 for a complete listing of internal components

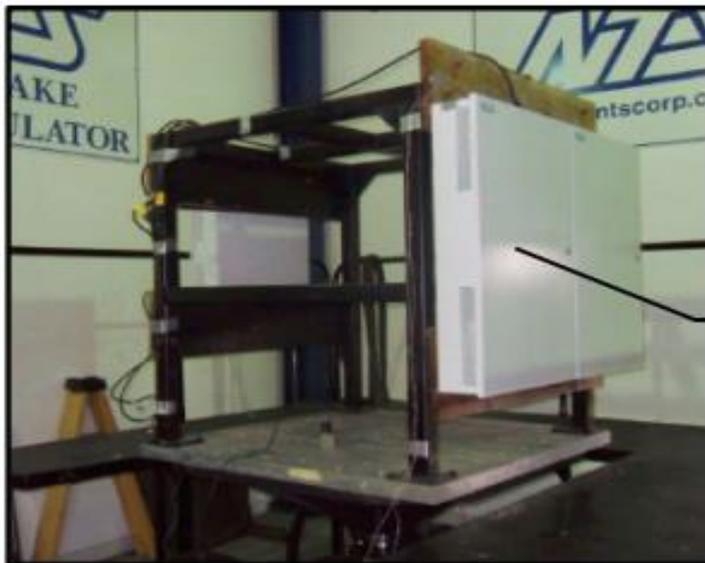
UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
100	5.8	22	34	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 2016	ICC-ES AC156	2.5	1.0	1.5	4.0	3.0	1.67	0.67

Test Mounting Details:



Unit was rigid wall mounted using four (4) 1/4" diameter 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. 16042

Manufacturer: Siemens Industry, Inc.	UUT 3
Model Line: TC & TNM Series Controllers	
Model Number: PX Series 19" Enclosure Serial Number: N/A	

Product Construction Summary:
Carbon steel enclosure. NEMA 1 rated

Options/Subcomponent Summary:
Refer to tables 2-4 for a complete listing of internal components

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
50	5.8	22	19	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 2016	ICC-ES AC156	2.5	1.0	1.5	4.0	3.0	1.67	0.67

Test Mounting Details:



UUT-3

Unit was rigid wall mounted using four (4) 1/4" diameter bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.