



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

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

OFFICE USE ONLY

APPLICATION #: **OSP – 0214-10**

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: **Sunbelt Controls**

Manufacturer's Technical Representative: Greg Clemente

Mailing Address: 4511 Willow Road, Suite 4, Pleasanton, CA

Telephone: 925.660.3900 Email: gclemente@sunbeltcontrols.com

Product Information

Product Name: **Automated Logic Control Panels**

Product Type: HVAC Control Panels

Product Model Number: TCP-01 (Chiller Plant Panel), TCP-02 (AHU Panel)
(List all unique product identification numbers and/or part numbers)

General Description: Chiller plant and air handling unit control panels

Mounting Description: Rigidly mounted to wall

Applicant Information

Applicant Company Name: **Manwill Engineering LLC**

Contact Person: Derek Manwill, SE

Mailing Address: PO Box 1194, Bend, OR 97709

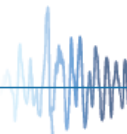
Telephone: 541.241.2102 Email: derek@manwillSE.com

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: 2/10/2017

Title: President Company Name: **Manwill Engineering 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: Manwill Engineering LLC

Name: Derek Manwill, SE California License Number: S6266

Mailing Address: PO Box 1194, Bend, OR 97709

Telephone: 541.241.2102 Email: derek@manwillSE.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): _____

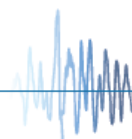
Testing Laboratory

Company Name: Dynamic Certification Laboratories

Contact Name: Kelly Laplace

Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431

Telephone: 775.358.5085 Email: kelly@shaketest.com





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
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Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.45

S_{DS} (Design spectral response acceleration at short period, g) = 1.93

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

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = N/A (wall mounted)

Overall dimensions and weight (or range thereof) = See Attachments 1 & 2

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

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

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

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (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

Other(s) (Please Specify): Attachments 1 & 2

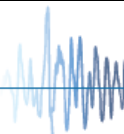
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: 2/10/17

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 1.93 z/h = 1.0

Condition of Approval (if applicable): _____



ATTACHMENT 1: CERTIFIED COMPONENTS

SEISMIC COMPLIANCE REPORT

TABLE 1

DOCUMENT NO.: 17013CR1.0

MANUFACTURER:	SUNBELT CONTROLS					
PRODUCT FAMILY:	AUTOMATED LOGIC CONTROL PANELS					
MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Automated Logic Control Panels						
TCP-02	9	30	36	148	AHU panel	UUT 2
TCP-01	9	30	36	149	Chiller plant panel	UUT 1
MOUNTING:	Rigidly mounted to wall.			SEISMIC LEVEL(S)	$S_{DS} = 1.93g$ for $z/h = 1$ $I_p = 1.5$	
NOTES:	Product Construction: 14 GA carbon steel, NEMA 4 enclosure. Options/Subcomponents: Enclosures may contain any combination of subcomponents listed in Table 2 to create a complete controller.					

TABLE 2 - SUBCOMPONENTS

MANUFACTURER:	SUNBELT CONTROLS					
PRODUCT FAMILY:	AUTOMATED LOGIC CONTROL PANELS					
MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
Kele - DIN Rail						
DIN-01 1000 (BAM-1000)					Aluminum	UUT 1, 2
Phoenix Contact - Span-On End Bracket						
EB-01 (3022218)					Polyacrylate Rubber	UUT 1, 2
Phoenix Contact - End Cover						
EC-01 (3003020)					Plastic	UUT 1, 2
Contemporary Controls - Ethernet Switch						
ES5 (EISK5-100T)						UUT 1, 2
Sola/Hevi-Duty - UPS Mounting Bracket						
MB-01 (SDU-PMBRK)						UUT 1, 2
Automated Logic - Control Modules						
ME812U-E					Aluminum, ethernet control module	UUT 1
ME812U-R (ME812U-LGR)					Aluminum, router control module	UUT 1, 2
MEX816U					Aluminum, expander module	UUT 1, 2
Panduit - Wiring Duct Covers						
PAN-01 (F1X4LG6 + C1LG6)	1	3			Lead free PVC	UUT 1, 2
PAN-02 (F2X4LG6 + C2LG6)	2.25	4.1			Lead free PVC	UUT 1, 2
Hammond - NEMA 4 Enclosure						
PNL-01 (EN4SD36308GY + EP3630)	9	30	36		Carbon steel	UUT 1, 2
IDEC - Power Supply						
PS5R (PS5R-F24)					Plastic, 24VDC, 120W, 5A	UUT 1, 2
Functional Devices - Power Supply						
PSH200 (PSH100A100AB10)					100VA, 120VAC to 24VAC	UUT 1, 2
IDEC - SPDT Relay DIN Rail Mount						
RB-01 (SH1B-05C)					Plastic	UUT 1, 2
IDEC - RH Relay SPDT						
RDC-01 (RH1B-ULCDC24V)					Silver cadmium oxide, 24VDC	UUT 1, 2
NOTES:	Table continues on the next page. Additional notes, information and seismic parameters are shown at the end of the table.					

ATTACHMENT 1: CERTIFIED COMPONENTS

SEISMIC COMPLIANCE REPORT

TABLE 2 - SUBCOMPONENTS (continued)

DOCUMENT NO.: 17013CR1.0

MANUFACTURER:	SUNBELT CONTROLS					
PRODUCT FAMILY:	AUTOMATED LOGIC CONTROL PANELS					
MODEL NUMBER	DIMENSIONS (in)			MAX. WT. (lb)	DESCRIPTION / NOTES	BASIS
	DEPTH	WIDTH	HEIGHT			
IDEC - RH1B Pullover Wire Spring						
RPW-01 (SY2S-02F1)					Carbon steel	UUT 1, 2
Phoenix Contact - Terminal Blocks						
TB-01 (3004362)					Plastic & carbon steel	UUT 1, 2
TB-02 (441504)					Plastic & carbon steel	UUT 1, 2
Sola/Hevi-Duty - Uninterruptible Power Supply						
UPS-500 (SDU500)					500VA	UUT 1, 2
Sola/Hevi-Duty - SDU Dry Contact Relay Kit						
UPS-R (RELAYCARD-SDU)						UUT 1, 2
MOUNTING:	Mounted within wall mounted unit.			SEISMIC LEVEL(S)	$S_{DS} = 1.93g$ for $z/h = 1$	$I_p = 1.5$
NOTES:	Product Construction/Options: Model number uniquely identifies manufacturer, materials and configuration of subcomponents.					

ATTACHMENT 2: UNIT UNDER TEST SUMMARIES

SEISMIC COMPLIANCE REPORT

UUT 1

DOCUMENT NO.: 17013CR1.0

MANUFACTURER:		SUNBELT CONTROLS				
MODEL NUMBER:		TCP-01				
UNIT FUNCTION:		CHILLER PLANT CONTROL PANEL				
SERIAL NUMBER:		N/A				
DIMENSIONS (in)			WEIGHT (lb)	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT		F-B	S-S	V
9	30	36	149	N/A	N/A	N/A
BUILDING CODE		TEST CRITERIA		LAB REPORT NO.		
2016 CBC		ICC-ES AC156		DCL 96024-1101		
S _{DS} (g)	z/h	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
1.93	1	3.09	2.32	1.29	0.52	
IMPORTANCE FACTOR, I_p = 1.5						
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.						
MOUNTING:		Rigidly wall mounted using (4) 3/8" Grade 2 bolts.				
CONSTRUCTION:		NEMA 4 carbon steel enclosure				
SUBCOMPONENTS:		Kele - DIN rail (DIN-01 1000), Phoenix Contact - span-on end bracket (EB-10), Phoenix Contact - end cover (EC-01), Contemp. Controls - ethernet switch (ES5), Sola/Hevi-Duty - UPS mounting bracket (MB-01), Automated Logic - control modules (ME812U-E, ME812U-R & MEX816U), Panduit - wiring duct covers (PAN-01 & PAN-02), IDEC - relay DIN rail mount (RB-01), IDEC - relay SPDT (RDC-01), IDEC - pullover wire spring (RPW-01), Phoenix Contact - terminal blocks (TB-01 & TB-02), Sola/Hevi-Duty - UPS (UPS-500), Sola/Hevi-Duty - relay kit (UPS-R)				
TESTING NOTES:		N/A				



UUT 2

MANUFACTURER:		SUNBELT CONTROLS				
MODEL NUMBER:		TCP-02				
UNIT FUNCTION:		AHU CONTROL PANEL				
SERIAL NUMBER:		N/A				
DIMENSIONS (in)			WEIGHT (lb)	RES. FREQ. (Hz)		
DEPTH	WIDTH	HEIGHT		F-B	S-S	V
9	30	36	148	N/A	N/A	N/A
BUILDING CODE		TEST CRITERIA		LAB REPORT NO.		
2016 CBC		ICC-ES AC156		DCL 96024-1101		
S _{DS} (g)	z/h	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
1.93	1	3.09	2.32	1.29	0.52	
IMPORTANCE FACTOR, I_p = 1.5						
Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.						
MOUNTING:		Rigidly wall mounted using (4) 3/8" Grade 2 bolts.				
CONSTRUCTION:		NEMA 4 carbon steel enclosure				
SUBCOMPONENTS:		Kele - DIN rail (DIN-01 1000), Phoenix Contact - span-on end bracket (EB-10), Phoenix Contact - end cover (EC-01), Contemp. Controls - ethernet switch (ES5), Sola/Hevi-Duty - UPS mounting bracket (MB-01), Automated Logic - control modules (ME812U-R & MEX816U), Panduit - wiring duct covers (PAN-01 & PAN-02), IDEC - relay DIN rail mount (RB-01), IDEC - relay SPDT (RDC-01), IDEC - pullover wire spring (RPW-01), Phoenix Contact - terminal blocks (TB-01 & TB-02), Sola/Hevi-Duty - UPS (UPS-500), Sola/Hevi-Duty - relay kit (UPS-R)				
TESTING NOTES:		N/A				

