



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY
APPLICATION #: OSP - 0183 - 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: [] New [X] Renewal

Manufacturer Information

Manufacturer: EMCOR Services/Mesa Energy Systems, Inc.

Manufacturer's Technical Representative: Remilyn Nacionales

Mailing Address: 14450 Doolittle Drive San Leandro, CA 94577

Telephone: (510) 670-1690 Email: Remilyn_nacionales@emcorgroup.com

Product Information

Product Name: Temperature Control Panels

Product Type: Control Panels

Product Model Number: See Certified Product Table attached
(List all unique product identification numbers and/or part numbers)

General Description: EMCOR Temperature Control Panels contain Andover/Schneider and Delta controllers and network
equipment for the management of HVAC and other mechanical units.
These components are installed in NEMA Types 1, 4, or 12.

Mounting Description: Wall-Mounted

Applicant Information

Applicant Company Name: EMCOR Services/Mesa energy Systems, Inc.

Contact Person: Remilyn Nacionales

Mailing Address: 14450 Doolittle Drive San Leandro, CA 94577

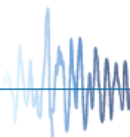
Telephone: (510) 670-1690 Email: Remilyn_nacionales@emcorgroup.com

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: [Handwritten Signature] Date: 4/18/2018

Title: Automation Engineering Manager Company Name: EMCOR Services/Mesa Energy Systems, 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: Forell/Elsesser Engineers, Inc.

Name: Marco Scanu, SE California License Number: S4454

Mailing Address: 160 Pine St., 6th Flr., San Francisco, CA 94111

Telephone: (415) 837-0700 Email: m.scanu@forell.com

Supports and Attachments Preapproval

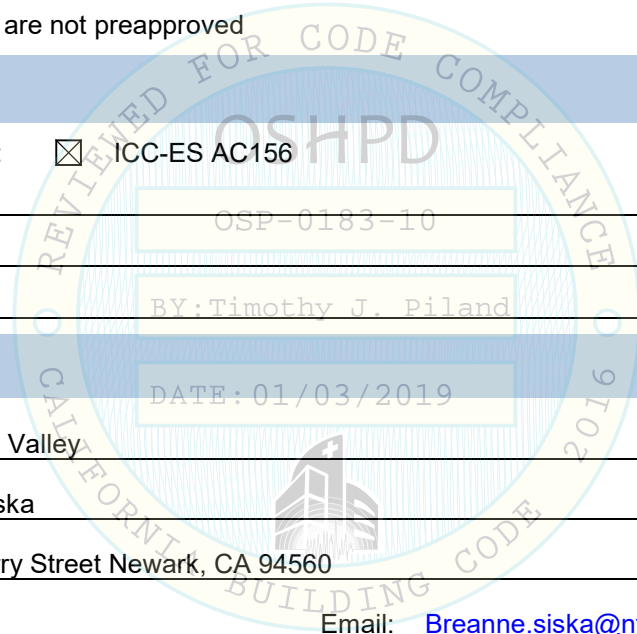
Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)

Supports and attachments are not preapproved

Certification Method

Testing in accordance with: ICC-ES AC156

Other (Please Specify): _____



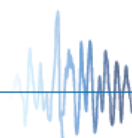
Testing Laboratory

Company Name: NTS Silicon Valley

Contact Name: Breanne Siska

Mailing Address: 38995 Cherry Street Newark, CA 94560

Telephone: (510) 578-3550 Email: Breanne.siska@nts.com





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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) = 1.96

S_{DS} (Design spectral response acceleration at short period, g) = 2.61

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) = See attachment, UUT Summary Sheets

Overall dimensions and weight (or range thereof) = See attachment, Certified Products Table

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) = OSP-0183-10

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): Certified Products Table, Certified Subcomponents Table, UUT Summary Sheets

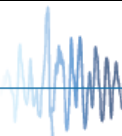
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature: Date: January 3, 2019

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.61 z/h = 1

Condition of Approval (if applicable): _____



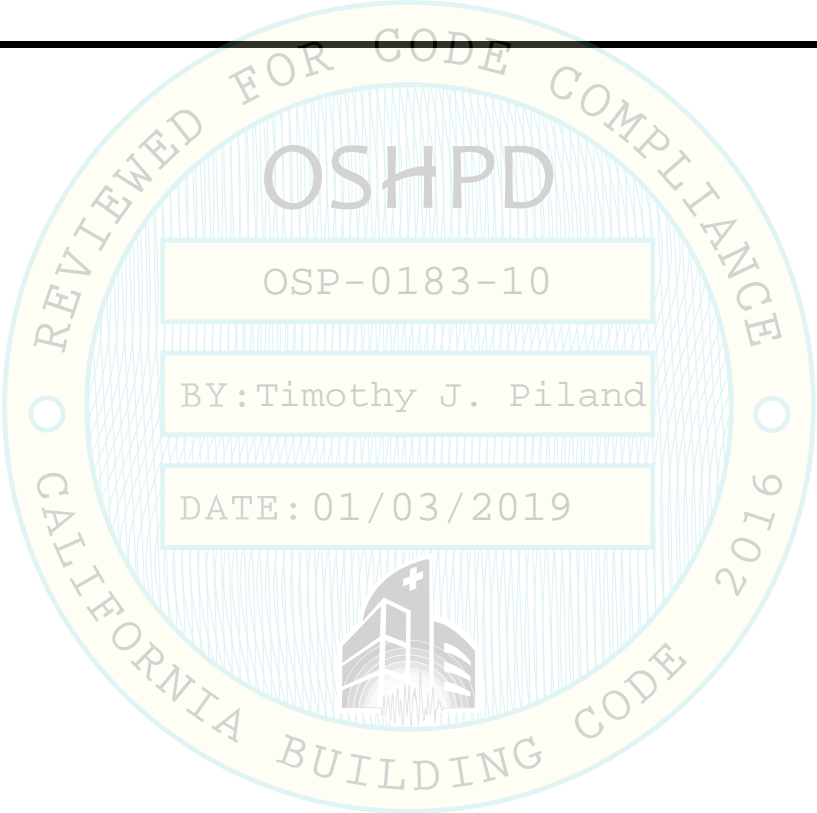
Emcor - Control Panels

I. Certified Product Table

Unit	Width	Depth	Height	Weight	Construction Material ^{1,2}	Model Number	Notes	Test Status
Temperature Control Par	16.0 in	6.0 in	20.0 in	58.0 lbs	14 ga - 10 ga CFS	CSD20166	3	Test Report R82726 - UUT-2
Temperature Control Par	36.0 in	11.0 in	48.0 in	212.0 lbs	14 ga - 10 ga CFS	CSD483610SSR	3	Test Report PR071997.01 - UUT-3
Temperature Control Par	36.0 in	13.3 in	48.0 in	1212.0 lbs	14 ga - 10 ga CFS	A4823613	3	Test Report R82726 - UUT-1

Notes

- 1. All enclosures are NEMA 1, 4, or 12 rated.
- 2. CFS= cold-formed carbon steel
- 3. Wall mounted.



**Emcor - Temperature Control Panels
II. Certified Subcomponents Table**

Internal Components	Manufacturer	Part #	Testing Status
Power Supply			
120/240vac Continuum UPS Power Supply (70W)	Schneider Electric	PS-120/240-AC85-U	R82726 UUT-1
120vac/24vdc PS5R Standard Power Supply	IDEC	PS5R-SB24	R82726 UUT-1
24vac/24vdc, 1.5A Power Supply, Option 3	Kele	DCP-1.5-W	R82726 UUT-2
24vdc Power Supply Step-PS/1AC/24DC/0.75	Phoenix	2868635	R82726 UUT-1
24vdc POWER SUPPLY STEP-PS/1A/24DC/1.75	Phoenix	2868648	PR071997.01 UUT-3
Battery			
12VDC Battery 7Ah	Schneider Electric	01-0010-842	R82726 UUT-1
Transformer			
120vac/24vac, 40va Transformer	Veris	X040AAA	R82726 UUT-2
120vac/24vac, 40va Transformer	Veris	X040AAB	Interpolated
120vac/24vac, 50va Transformer	Veris	X050BAA (T-201-1)	Interpolated
120vac/24vac, 50va Transformer	Veris	X050BAB	Interpolated
120vac/24vac, 50va Transformer w/CIRCUIT BREAKER	Veris	X050CAA	Interpolated
120,240,277,480vac/24vac, 50va Transformer w/CIRCUIT BREAKER	Veris	X050CBB (T-245)	Interpolated
120vac/24vac, 75va Transformer w/CIRCUIT BREAKER	Veris	X075CAA (T-207)	Interpolated
120vac/24vac, 75va Transformer w/CIRCUIT BREAKER	Veris	X075CAB	Interpolated
120,240,277,480vac/24vac, 75va Transformer w/CIRCUIT BREAKER	Veris	X075CBA	Interpolated
120,240,277,480vac/24vac, 100va Transformer w/CIRCUIT BREAKER	Veris	X100CBB	Interpolated
120vac/24vac, 100va TRANSFORMER w/CIRCUIT BREAKER	Veris	X100CAB	Interpolated
120vac/24vac, 100va TRANSFORMER w/CIRCUIT BREAKER	Veris	X100CAA (T-208)	PR071997.01 UUT-3
120vac/24vac, 150va Transformer / Breaker	Veris	X150CAA	R82726 UUT-1
Fuse			
1 amp Fuse	Bussman	GDC-1A	R82726 UUT-1, UUT-2
3 amp Fuse	Bussman	GDC-3.15A	R82726 UUT-1, UUT-2
1.25 amp Fuse	Bussman	GDC-1.25A	Interpolated
1.6 amp Fuse	Bussman	GDC-1.6A	Interpolated
2 amp Fuse	Bussman	GDC-2A	Interpolated
2.5 amp Fuse	Bussman	GDC-2.5A	Interpolated
4 amp Fuse	Bussman	GDC-4A	Interpolated
5 amp Fuse	Bussman	GDC-5A	Interpolated
6.3 amp Fuse	Bussman	GDC-6.3A	PR071997.01 UUT-3
Terminal Strip			
24vdc Lighted, Fused Disconnect (UT-4-HESILA 24)	Phoenix	3046090	R82726 UUT-1, UUT-2
120vac Lighted, Fused Disconnect (UT-4-HESILA 250)	Phoenix	3046100	R82726 UUT-1, UUT-2
Grounded Terminal Strip (UT-4-PE)	Phoenix	3044128	R82726 UUT-1, UUT-2
Terminal Strip (UT-4)	Phoenix	3044102	R82726 UUT-1, UUT-2
Disconnect Terminal Strip (UT-4-MT)	Phoenix	3046139	R82726 UUT-1, UUT-2
3-Level Terminal Strip (DIKD 1,5)	Phoenix	2715979	R82726 UUT-2
Electrical Outlet			
GFCI Electrical Outlet, 120vac, 15amp	Hubbell	GF15WL	R82726 UUT-2
GFCI Electrical Outlet, 120vac, 15amp	Hubbell	GFRST15W	PR071997.01 UUT-3
2"x4" Electrical Handy Box & Cover (#2510)	Appleton	4SSL1/2	R82726 UUT-2
PLUG CONNECTOR 3 POSITION	IDEAL	30-1033	PR071997.01 UUT-3
PLUG CONNECTOR 4 POSITION	IDEAL	30-1034	PR071997.01 UUT-3
2" x 4" ELECTRICAL HANDY BOX	Steel City	58371 1/2	PR071997.01 UUT-3
Electrical Outlet, 120vac, 15amp	Leviton	5320-ICP	R82726 UUT-1
Relay			
24vac SPDT Relay w/ HOA Switch (2 relay)	Air Products	MR-602/T	R82726 UUT-2
24vac SPDT Relay w/ HOA Switch (1 relay)	Air Products	MR-601/T	Interpolated
24vac SPDT Relay w/ HOA Switch (4 relay)	Air Products	MR-604/T	Interpolated
24vac SPDT Relay w/ HOA Switch (8 relay)	Air Products	MR-608/T	PR071997.01 UUT-3
24vac, 2P2T Relay	IDEC	RH2B-ULAC24V	R82726 UUT-1
24vac, SP2T Relay	IDEC	RH1B-ULAC24V	Interpolated
24vac, 3P2T Relay	IDEC	RH3B-ULAC24V	Interpolated
120vac, SP2T Relay	IDEC	RH1B-ULAC120V	Interpolated
120vac, 2P2T Relay	IDEC	RH2B-ULAC120V	Interpolated
120vac, 3P2T Relay	IDEC	RH3B-ULAC120V	Interpolated
120vac, 4P2T Relay	IDEC	RH4B-ULAC120V	Interpolated
24vac, 4P2T Relay	IDEC	RH4B-ULAC24V	R82726 UUT-1
2P2T Relay Socket	IDEC	SH2B-05	R82726 UUT-1
SP2T Relay Socket	IDEC	SH1B-05	Interpolated
3P2T Relay Socket	IDEC	SH3B-05	Interpolated
4P2T Relay Socket	IDEC	SH4B-05	R82726 UUT-1
24vac, 2P2T RELAY, w/MANUAL OVERRIDE	IDEC	RU2S-A24	PR071997.01 UUT-3
24vac, 4P2T RELAY, w/MANUAL OVERRIDE	IDEC	RU4S-A24	PR071997.01 UUT-3
2P2T RELAY SUBBASE	IDEC	SM2S-05	PR071997.01 UUT-3
4P2T RELAY SUBBASE	IDEC	SM4S-05	PR071997.01 UUT-3
(430230 relay, 430231 base) 12VDC Relay	Song-Chuan	507N1-1CC-FCE-12VDC	PR071997.01 UUT-3
Expansion Modules			
4 UNIVERSAL INPUT EXPANSION MODULE	Schneider Electric	xPUI4	R82726 UUT-1
2 ANALOG OUTPUT EXPANSION MODULE, w/ OVERRIDE	Schneider Electric	xPAO2	Interpolated
4 ANALOG OUTPUT EXPANSION MODULE, w/ OVERRIDE	Schneider Electric	xPAO4	Interpolated
4 UNIVERSAL INPUT, 4 ANALOG OUTPUT EXPANSION MODULE	Schneider Electric	xPBA4	Interpolated
4 UNIVERSAL INPUT, 4 DIGITAL OUTPUT EXPANSION MODULE	Schneider Electric	xPBD4	Interpolated
2 DIGITAL OUTPUT EXPANSION MODULE, w/ OVERRIDE	Schneider Electric	xPDO2	Interpolated
4 DIGITAL OUTPUT EXPANSION MODULE, w/ OVERRIDE	Schneider Electric	xPDO4	R82726 UUT-1
8 DIGITAL INPUT EXPANSION MODULE	Schneider Electric	xPDI8	Interpolated
Expansion Module Display & Keypad	Schneider Electric	xP Display	Interpolated

CPU Modules			
0 NODE NETCONTROLLER II	Schneider Electric	NC2-R-000000000	Interpolated
8 NODE NETCONTROLLER II	Schneider Electric	NC2-R-008000000	R82726 UUT-1
32 NODE NETCONTROLLER II	Schneider Electric	NC2-R-032000000	Interpolated
64 NODE NETCONTROLLER II	Schneider Electric	NC2-R-064000000	Interpolated
127 NODE NETCONTROLLER II	Schneider Electric	NC2-R-127000000	Interpolated
254 NODE NETCONTROLLER II	Schneider Electric	NC2-R-254000000	Interpolated
0 NODE NETCONTROLLER II	Schneider Electric	NC2-F-000000000	Interpolated
8 NODE NETCONTROLLER II	Schneider Electric	NC2-F-008000000	Interpolated
32 NODE NETCONTROLLER II	Schneider Electric	NC2-F-032000000	Interpolated
64 NODE NETCONTROLLER II	Schneider Electric	NC2-R-064000000	Interpolated
127 NODE NETCONTROLLER II	Schneider Electric	NC2-R-127000000	Interpolated
254 NODE NETCONTROLLER II	Schneider Electric	NC2-R-254000000	Interpolated
All are identical except for software			
BACnet Controller/Routers			
64 NODE BACNET ROUTER	Schneider Electric	BCX1-R-64	Interpolated
32 NODE BACnet CONTROLLER/ROUTER, 24VDC/24AC, 10/100T	Schneider Electric	BCX1-CR-32	R82726 UUT-1
32 NODE INFINET CONTROLLER / ROUTER	Schneider Electric	BCX1-CR-32-INF	Interpolated
0 NODE BACNET CONTROLLER / ROUTER	Schneider Electric	BCX1-CR-0	Interpolated
8 NODE BACNET CONTROLLER / ROUTER	Schneider Electric	BCX1-CR-8	Interpolated
64 NODE BACNET CONTROLLER / ROUTER	Schneider Electric	BCX1-CR-64	Interpolated
0 NODE INFINET CONTROLLER / ROUTER	Schneider Electric	BCX1-CR-0-INF	Interpolated
8 NODE INFINET CONTROLLER / ROUTER	Schneider Electric	BCX1-CR-8-INF	Interpolated
64 NODE INFINET CONTROLLER / ROUTER	Schneider Electric	BCX1-CR-64-INF	Interpolated
Identical except for software			
BACNET, 8 UI, DIRECT DIGITAL CONTROLLER	Schneider Electric	b3608	Interpolated
BACNET, 24 UI, DIRECT DIGITAL CONTROLLER	Schneider Electric	b3624	Interpolated
BACNET, 8 UI, 8 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	b3800	Interpolated
BACNET, 8 UI, 4 DO, 4 AO DIRECT DIGITAL CONTROLLER	Schneider Electric	b3804	Interpolated
BACNET, 8 UI, 8 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	b3810	Interpolated
BACNET, 8 UI, 4 DO, 4 AO DIRECT DIGITAL CONTROLLER	Schneider Electric	b3814	Interpolated
BACNET, 1 AF, 5 UI, 4 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	b3850	Interpolated
BACNET, 1 AF, 5 UI, 4 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	b3851	Interpolated
BACNET, 2 AF, 5 UI, 4 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	b3853	Interpolated
BACNET, VAV CONTROLLER	Schneider Electric	b3865	Interpolated
BACNET, VAV CONTROLLER	Schneider Electric	b3866	Interpolated
BACNET, 5 UI, 5 DO, 2 AO, DIRECT DIGITAL CONTROLLER	Schneider Electric	b3867	R82726 UUT-2
BACNET, VAV CONTROLLER	Schneider Electric	b3885	Interpolated
BACNET, 3 UI, 5 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	b3887	Interpolated
BACNET, 16 UI, 8 DO, 8 AO DIRECT DIGITAL CONTROLLER	Schneider Electric	b3920	R82726 UUT-1
BACNET, 16 UI, 8 DO, 8 AO DIRECT DIGITAL CONTROLLER	Schneider Electric	b4920	Interpolated
Infinet II Controllers			
INFINITY II, 16 UI, 8 DO, 8 AO DIRECT DIGITAL CONTROLLER	Schneider Electric	i2920	R82726 UUT-1
INFINITY II, 8 UI, DIRECT DIGITAL CONTROLLER	Schneider Electric	i2608	Interpolated
INFINITY II, 24 UI, DIRECT DIGITAL CONTROLLER	Schneider Electric	i2624	Interpolated
INFINITY II, 8 UI, 8 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	i2800	Interpolated
INFINITY II, 8 UI, 4 DO, 4 AO DIRECT DIGITAL CONTROLLER	Schneider Electric	i2804	Interpolated
INFINITY II, 8 UI, 8 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	i2810	Interpolated
INFINITY II, 8 UI, 4 DO, 4 AO DIRECT DIGITAL CONTROLLER	Schneider Electric	i2814	Interpolated
INFINITY II, 1 AF, 5 UI, 4 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	i2850	Interpolated
INFINITY II, 1 AF, 5 UI, 4 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	i2851	Interpolated
INFINITY II, 2 AF, 5 UI, 4 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	i2853	Interpolated
INFINITY II, VAV CONTROLLER	Schneider Electric	i2865	Interpolated
INFINITY II, VAV CONTROLLER	Schneider Electric	i2866	Interpolated
INFINITY II, 5 UI, 5 DO, 2 AO, DIRECT DIGITAL CONTROLLER	Schneider Electric	i2867	R82726 UUT-2
INFINITY II, 3 UI, 5 DO, DIRECT DIGITAL CONTROLLER	Schneider Electric	i2887	Interpolated
enteliBUS Controllers			
eBCON enteliBUS System Controller w/Ethernet (CPU/Comm,4 slot Controller Backplane)	Delta	eBCON	PR071997.01 UUT-3
eBM-000 enteliBUS Module (Blank)	Delta	eBM-000	PR071997.01 UUT-3
eBM-404 enteliBUS Module (4 UIs,4 BOs)	Delta	eBM-404	Interpolated
eBM-404-H enteliBUS Module (4 UIs,4 BOs with HAOs)	Delta	eBM-404-H	PR071997.01 UUT-3
eBM-440 enteliBUS Module (4 UIs,4 AOs)	Delta	eBM-440	Interpolated
eBM-440-M enteliBUS Module (4 UIs,4 AOs with HAOs & 0-100% Adjust Levers)	Delta	eBM-440-M	PR071997.01 UUT-3
eBM-440I-M enteliBUS Module (4 UIs, 4 (0-20mA) AOs with HAOs & 0-100% Adjust Levers)	Delta	eBM-440I-M	Interpolated
eBM-800 enteliBUS Module (8 UIs)	Delta	eBM-800	Interpolated
eBM-D400R4 enteliBUS Module (4 BIs,4 Relay OPs)	Delta	eBM-D400R4	Interpolated
eBM-D400R4-H enteliBUS Module (4 BIs,4 Relay OPs with HAOs)	Delta	eBM-D400R4-H	Interpolated
eBX-04 enteliBUS Expander Backplane (4 slot)	Delta	eBX-04	Interpolated
eBX-08 enteliBUS Expander Backplane (8 slot)	Delta	eBX-08	PR071997.01 UUT-3
eTCH-7ET enteliTOUCH (7 LCD,Temperature)	Delta	eTCH-7ET	PR071997.01 UUT-3
Network terminator	Delta	TRM-768	PR071997.01 UUT-3

Smartstruxture Controllers			
SMARTSTRUXURE 8 mA OR V AO MODULE	Schneider Electric	AO-8	Interpolated
SMARTSTRUXURE 8 mA OR V AO MODULE W/ HOA	Schneider Electric	AO-8-H	Interpolated
SMARTSTRUXURE 8 V ONLY AO MODULE	Schneider Electric	AO-V-8	Interpolated
SMARTSTRUXURE 8 V ONLY AO MODULE W/ HOA	Schneider Electric	AO-V-8-H	Interpolated
SMARTSTRUXURE AUTOMATION SERVER	Schneider Electric	AS-P	PR071997.01 UUT-3
SMARTSTRUXURE 16 DI MODULE	Schneider Electric	DI-16	Interpolated
SMARTSTRUXURE 12 FORM A DO MODULE	Schneider Electric	DO-FA-12	Interpolated
SMARTSTRUXURE 12 FORM A DO MODULE W/ HOA	Schneider Electric	DO-FA-12-H	PR071997.01 UUT-3
SMARTSTRUXURE 8 FORM C DO MODULE	Schneider Electric	DO-FC-8	Interpolated
SMARTSTRUXURE 8 FORM C DO MODULE W/ HOA	Schneider Electric	DO-FC-8-H	Interpolated
SMARTSTRUXURE POWER SUPPLY	Schneider Electric	PS-24V	PR071997.01 UUT-3
SMARTSTRUXURE AUTOMATION SERVER BASE	Schneider Electric	TB-ASP-W1	PR071997.01 UUT-3
SMARTSTRUXURE IO MODULE BASE	Schneider Electric	TB-IO-W1	PR071997.01 UUT-3
SMARTSTRUXURE POWER SUPPLY BASE	Schneider Electric	TB-PS-W1	PR071997.01 UUT-3
SMARTSTRUXURE 16 UI MODULE	Schneider Electric	UI-16	Interpolated
SMARTSTRUXURE 8 UI & 4 mA OR V AO MODULE	Schneider Electric	UI-8/AO-4	Interpolated
SMARTSTRUXURE 8 UI & 4 mA OR V AO MODULE W/ HOA	Schneider Electric	UI-8/AO-4-H	PR071997.01 UUT-3
SMARTSTRUXURE 8 UI & 4 V ONLY AO MODULE	Schneider Electric	UI-8/AO-V-4	Interpolated
SMARTSTRUXURE 8 UI & 4 V ONLY AO MODULE W/ HOA	Schneider Electric	UI-8/AO-V-4-H	Interpolated
SMARTSTRUXURE 8 UI & 4 FORM C DO MODULE	Schneider Electric	UI-8/DO-FC-4	Interpolated
SMARTSTRUXURE 8 UI & 4 FORM C DO MODULE W/ HOA	Schneider Electric	UI-8/DO-FC-4-H	Interpolated
Miscellaneous			
5 PORT ETHERNET SWITCH	CC	EISK5-100T	PR071997.01 UUT-3
24vac VARISTOR	ANDOVER/SCHNEIDER	01-2020-095	PR071997.01 UUT-3
249 OHM, 1/4 WATT, 1% RESISTOR	XICON	271-249-RC	PR071997.01 UUT-3
499 OHM, 1/4 WATT, 1% RESISTOR	XICON	271-499-RC	PR071997.01 UUT-3
0-1"W.C. PRESSURE TRANSDUCER W/ LCD, NIST	VERIS	PXPLN01S-T1	PR071997.01 UUT-3
0-10"W.C. PRESSURE TRANSDUCER W/ LCD, NIST	VERIS	PXPLN02S	Interpolated
0-1"W.C. PRESSURE TRANSDUCER W/ LCD	VERIS	PXPLX01S	Interpolated
0-10"W.C. PRESSURE TRANSDUCER W/ LCD	VERIS	PXPLX02S	Interpolated
0-1"W.C. PRESSURE TRANSDUCER NIST	VERIS	PXPXN01S	Interpolated
0-10"W.C. PRESSURE TRANSDUCER NIST	VERIS	PXPXN02S	Interpolated
0-1"W.C. PRESSURE TRANSDUCER	VERIS	PXPXX01S	Interpolated
0-10"W.C. PRESSURE TRANSDUCER	VERIS	PXPXX02S	Interpolated
0-10"W.C. PRESSURE TRANSDUCER W/LCD	VERIS	PXULX05S	Interpolated
0-10"W.C. PRESSURE TRANSDUCER W/ LCD, NIST	VERIS	PXULN05S	PR071997.01 UUT-3
0-10"W.C. PRESSURE TRANSDUCER	VERIS	PXUXX05S	Interpolated
0-10"W.C. PRESSURE TRANSDUCER NIST	VERIS	PXUXN05S	Interpolated
Software Difference			
DIFFERENTIAL PRESSURE SWITCH WITH MANUAL RESET	DWYER	1900-1-MR	PR071997.01 UUT-3
DIFFERENTIAL PRESSURE SWITCH WITH MANUAL RESET	DWYER	1900-5-MR	Interpolated
DIFFERENTIAL PRESSURE SWITCH WITH MANUAL RESET	DWYER	1900-10-MR	Interpolated
DIFFERENTIAL PRESSURE SWITCH WITH MANUAL RESET	DWYER	1900-20-MR	Interpolated
DIFFERENTIAL PRESSURE SWITCH	DWYER	1910-00	Interpolated
DIFFERENTIAL PRESSURE SWITCH	DWYER	1910-0	Interpolated
DIFFERENTIAL PRESSURE SWITCH	DWYER	1910-1	Interpolated
DIFFERENTIAL PRESSURE SWITCH	DWYER	1910-5	Interpolated
DIFFERENTIAL PRESSURE SWITCH	DWYER	1910-10	Interpolated
DIFFERENTIAL PRESSURE SWITCH	DWYER	1910-20	PR071997.01 UUT-3
Electropneumatic Transducer, Analog Input, Selectable Output, Slide Switch/Auto/Manual	VERIS	EP2100S1	PR071997.01 UUT-3
Electropneumatic Transducer, Analog Input, Selectable Output, Slide Switch/Auto/Manual, PRESSURE LOSS ALARM	VERIS	EP2110S1	Interpolated
Electropneumatic Transducer, Analog Input, Selectable Output, Slide Switch/Auto/Manual, MANUAL MODE ALARM	VERIS	EP2120S1	Interpolated
Electropneumatic Transducer, Analog Input, Selectable Output, Slide Switch/Auto/Manual, VENT ON POWER FAIL	VERIS	EP2101S1	Interpolated
Electropneumatic Transducer, Analog Input, Selectable Output, Slide Switch/Auto/Manual, PRESSURE LOSS ALARM, VENT ON POWER FAIL	VERIS	EP2111S1	Interpolated
Electropneumatic Transducer, Analog Input, Selectable Output, Slide Switch/Auto/Manual, MANUAL MODE ALARM, VENT ON POWER FAIL	VERIS	EP2121S1	PR071997.01 UUT-3
ZIP TIE (24 - 175# tensile strength)	Thomas & Betts	L-24-175-9-L	Interpolated
ZIP TIE (36 - 175# tensile strength)	Thomas & Betts	L-36-175-9-L	Interpolated
ZIP TIE (48 - 175# tensile strength)	Thomas & Betts	L-48-175-9-L	PR071997.01 UUT-3
ZIP TIE (7.5")	Thomas & Betts	TY525MX	PR071997.01 UUT-3

EMCOR Services/Mesa Energy Systems, Inc. – Temperature Control Panels
 III. UUT Summary Sheets

Test Report R82726 – UUT 1

Temperature Control Panel

(largest in product line)

48”H x 36”W x13.25”D NEMA 1, 212 lbs

Wall mounted using: (4) - 3/8” lag bolts



Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	Horizontal		Vertical	
					A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC 156	2.61	1.0	1.5	4.18	3.13	1.75	0.70
Natural Frequencies (Hz)			Test Results					
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.					
n/a	n/a	n/a						

Subcomponents	Manufacturer	Part #
Cabinet	Rauland-Borg	NC2828
Floor Power Supply	Rauland-Borg	NCPWR
Battery Backup Kit	Rauland-Borg	NCBBK
Group Control Module	Rauland-Borg	NCGCM
Power Supply and Battery	Rauland-Borg	351003
Branch Regional Controller	Rauland-Borg	351000
Network Adapter Module	Rauland-Borg	351002

EMCOR Services/Mesa Energy Systems, Inc. – Temperature Control Panels
 III. UUT Summary Sheets

Test Report R82726 – UUT 2

Temperature Control Panel

(smallest in product line)

20”H x 16”W x 6”D NEMA 4, 58 lbs

Wall mounted using: (4) - 3/8” lag bolts



Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	Horizontal		Vertical	
					A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC 156	2.61	1.0	1.5	4.18	3.13	1.75	0.70
Natural Frequencies (Hz)			Test Results					
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.					
n/a	n/a	n/a						

Subcomponents	Manufacturer	Part #
Cabinet	Rauland-Borg	NC2828
Floor Power Supply	Rauland-Borg	NCPWR
Battery Backup Kit	Rauland-Borg	NCBBK
Group Control Module	Rauland-Borg	NCGCM
Power Supply and Battery	Rauland-Borg	351003
Branch Regional Controller	Rauland-Borg	351000
Network Adapter Module	Rauland-Borg	351002

OSP APPLICATION
 EMCOR Services/Mesa Energy Systems, Inc. – Temperature Control Panels
 III. UUT Summary Sheets

Date: 4/16/2018

Test Report PR071997.01 – UUT 3

Temperature Control Panel

48”H x 36”W x11”D NEMA 4 SS, 212 lbs

Wall mounted using: (4) - 3/8” grade 5 lag bolts



Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	Horizontal		Vertical	
					A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC 156	3.02	1.0	1.5	4.83	3.62	2.02	0.81
Natural Frequencies (Hz)			Test Results					
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.					
n/a	n/a	n/a						

Subcomponents	Manufacturer	Part #
Cabinet	Rauland-Borg	NC2828
Floor Power Supply	Rauland-Borg	NCPWR
Battery Backup Kit	Rauland-Borg	NCBBK
Group Control Module	Rauland-Borg	NCGCM
Power Supply and Battery	Rauland-Borg	351003
Branch Regional Controller	Rauland-Borg	351000
Network Adapter Module	Rauland-Borg	351002