



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

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

OFFICE USE ONLY

APPLICATION #: OSP-0246

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Edwards, A division of UTC Fire & Security America

Manufacturer's Technical Representative: Steve Tabb

Mailing Address: 8985 Town Center Parkway, Bradenton, FL 34202

Telephone: (941) 739-4328 Email: steven.tabb@carrier.com

Product Information

Product Name: Electrical Control Panels on Life Safety/Critical Branch

Product Type: Fire Alarm & Security Panels

Product Model Number: Varies (See Attachment)

General Description: Fire Alarm Control Panels. Mohammad Aliaari

Mounting Description: Rigid, Wall 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, Inc.

Contact Person: Galen Reid

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

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

Title: Program Manager





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

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

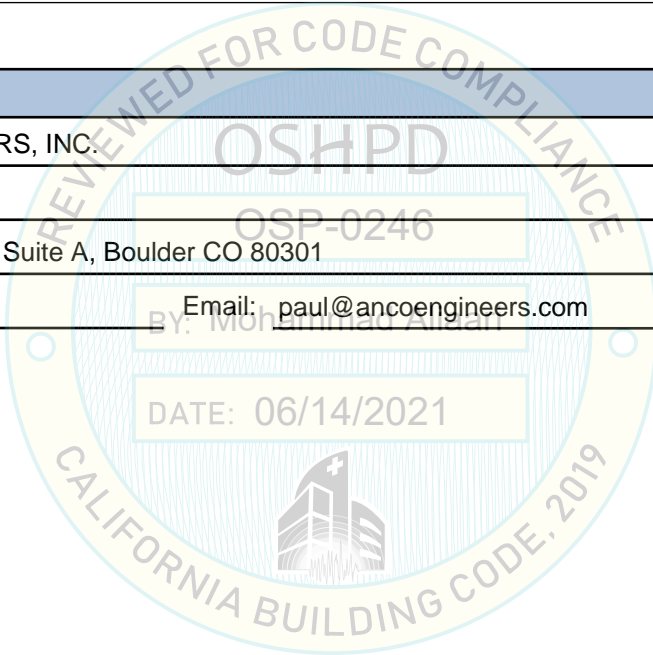
Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.
Name: Andrew Coughlin California License Number: S6082
Mailing Address: 5215 Hellyer Ave, Suite 101, San Jose, CA 951381025
Telephone: (415) 635-8461 Email: acoughlin@structint.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: ANCO ENGINEERS, INC.
Contact Person: Paul Ibanez
Mailing Address: 1965 33rd Street, Suite A, Boulder CO 80301
Telephone: (303) 443-7580 Email: paul@ancoengineers.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.88

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

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

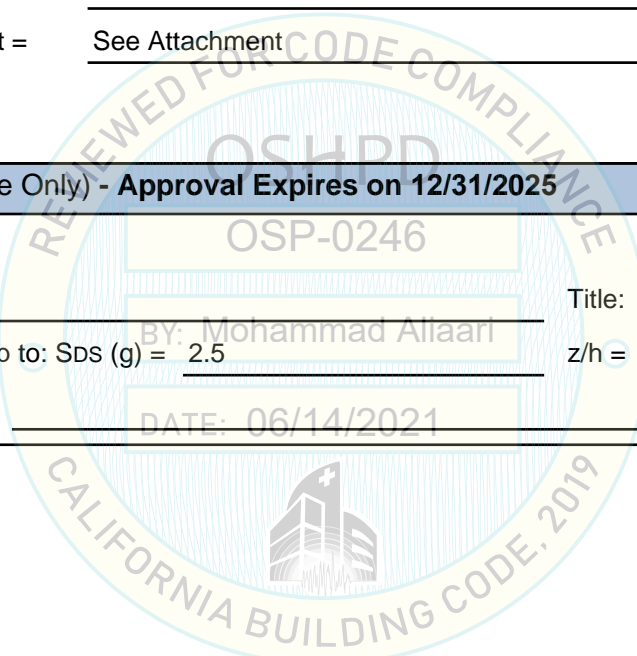
OSHPD Approval (For Office Use Only) - Approval Expires on 12/31/2025

Date: 6/14/2021

Name: Mohammad Aliaari Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: SDS (g) = 2.5 z/h = 1

Condition of Approval (if applicable): DATE: 06/14/2021



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2001221



| | |
|---|----------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security America Corp., Inc. | TABLE 1 |
| Model Line: Custom Fire Alarm Control Panels | |

Certified Product Construction Summary:
14 gauge carbon steel enclosure

Certified Options Summary:

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 | | | |
| EST-3X | 3X-SFS1-B | 7 | 22 | 36 | 96 | Bronze Door | 1 |
| | 3X-SFS1-R | 7 | 22 | 36 | 96 | Red Door | Interp. |
| EST-VM | VM-1S | 6.75 | 21.75 | 35.5 | 96 | Silver Door | 2 |
| | VM-1R | 6.75 | 21.75 | 35.5 | 96 | Red Door | Interp. |
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SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2001221



| | |
|---|----------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security America Corp., Inc. | TABLE 2 |
| Model Line: Custom Fire Alarm Control Panels | |

Certified Product Construction Summary:
16 gauge carbon steel enclosure

Certified Options Summary:

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 | | | |
| Small Analog System | IO64G-PG | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | IO64G-SP | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | iO64G | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | iO64GD | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | iO64R | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | iO64RD | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | IO64G-2-PG | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | IO64G-2-SP | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | iO64G-2 | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | iO64R-2 | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | iO64GL | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | iO64GL-F | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | E-FSA64G | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | E-FSA64GD | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | E-FSA64R | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | E-FSA64RD | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | FX-64G | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | FX-64GD | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | FX-64R | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | FX-64RD | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | FX-64G-2 | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| FX-64R-2 | 4 | 14.25 | 21.5 | 16 | | Extrap. | |
| ADT-FSA64G | 4 | 14.25 | 21.5 | 16 | | Extrap. | |

Differences in models are branding, color, language translations, and input voltage (230V denoted by "-2").

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2001221



| | |
|---|----------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security America Corp., Inc. | TABLE 2 |
| Model Line: Custom Fire Alarm Control Panels | |

Certified Product Construction Summary:
16 gauge carbon steel enclosure

Certified Options Summary:

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 | | | |
| Small Analog System | ADT-FSA64GD | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | ADT-FSA64R | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | ADT-FSA64RD | 4 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-G | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-G-2 | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-G-2-PG | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-G-2-SP | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-GD | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-GL | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-GL-F | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-G-PG | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-G-SP | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-R | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-R-2 | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1-RD | 5 | 14.25 | 21.5 | 16 | | Extrap. |
| | VS1 | 5 | 14.25 | 21.5 | 16 | | 9 |
| | FX-254G | 4 | 15.75 | 28 | 27 | | 5 |
| | FX-254GD | 4 | 15.75 | 28 | 27 | | Interp |
| | FX-1000 | 4 | 15.75 | 28 | 27 | | Interp |
| | FX-254R | 4 | 15.75 | 28 | 27 | | Interp |
| FX-1000D | 4 | 15.75 | 28 | 27 | | Interp | |
| FX-254RD | 4 | 15.75 | 28 | 27 | | Interp | |
| FX-254G-2 | 4 | 15.75 | 28 | 27 | | Interp | |

Differences in models are branding, color, language translations, and input voltage (230V denoted by "-2").

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|---|----------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security America Corp., Inc. | TABLE 2 |
| Model Line: Custom Fire Alarm Control Panels | |

Certified Product Construction Summary:
16 gauge carbon steel enclosure

Certified Options Summary:

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 | | | |
| Small Analog System | E-FSA250G | 4 | 15.75 | 28 | 27 | | Interp |
| | E-FSA250GD | 4 | 15.75 | 28 | 27 | | Interp |
| | E-FSA250R | 4 | 15.75 | 28 | 27 | | Interp |
| | E-FSA250RD | 4 | 15.75 | 28 | 27 | | Interp |
| | ADT-FSA250G | 4 | 15.75 | 28 | 27 | | Interp |
| | ADT-FSA250GD | 4 | 15.75 | 28 | 27 | | Interp |
| | ADT-FSA250R | 4 | 15.75 | 28 | 27 | | Interp |
| | ADT-FSA250RD | 4 | 15.75 | 28 | 27 | | Interp |
| | VS4-G | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS4-GC | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS4-GD | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS4-GF | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS4-G-PG | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS4-G-SP | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS2-G | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS2-GD | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS4-R | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS2-R | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS4-RD | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS2-RD | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS4-G-2 | 4.5 | 15.75 | 28 | 27 | | Interp |
| VS4-G-2-PG | 4.5 | 15.75 | 28 | 27 | | Interp | |
| VS4-G-2-SP | 4.5 | 15.75 | 28 | 27 | | Interp | |

Differences in models are branding, color, language translations, and input voltage (230V denoted by "-2").

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

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| | |
|---|----------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security America Corp., Inc. | TABLE 2 |
| Model Line: Custom Fire Alarm Control Panels | |

Certified Product Construction Summary:
16 gauge carbon steel enclosure

Certified Options Summary:

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 | | | |
| Small Analog System | VS2-G-2 | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS4-R-2 | 4.5 | 15.75 | 28 | 27 | | Interp |
| | VS2-R-2 | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000G | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000G-PG | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000G-SP | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000R | 4.5 | 15.75 | 28 | 27 | | Interp |
| | iO500G | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000GD | 4.5 | 15.75 | 28 | 27 | | Interp |
| | iO500R | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000RD | 4.5 | 15.75 | 28 | 27 | | Interp |
| | iO500RD | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000G-2 | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000G-2-PG | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000G-2-SP | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000R-2 | 4.5 | 15.75 | 28 | 27 | | Interp |
| | iO500G-2 | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000G-CA | 4.5 | 15.75 | 28 | 27 | | Interp |
| | IO1000G-F | 4.5 | 15.75 | 28 | 27 | | Interp |
| | iO500GL-F | 4.5 | 15.75 | 28 | 27 | | Interp |
| iO500GD | 4.5 | 15.75 | 28 | 27 | | 4 | |

Differences in models are branding, color, language translations, and input voltage (230V denoted by "-2").

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 2001221



| | |
|---|----------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security America Corp., Inc. | TABLE 3 |
| Model Line: Custom Fire Alarm Control Panels | |

Certified Product Construction Summary:
16 gauge carbon steel enclosure

Certified Options Summary:

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 | | | |
| Booster Power Supply | APS10A | 5.325 | 15.25 | 26.5 | 69.5 | | 8 |
| | APS10A/230 | 5.325 | 15.25 | 26.5 | 69.5 | Voltage (software) | Extrap. |
| | APS10CAA | 5.325 | 15.25 | 26.5 | 69.5 | Software | Extrap. |
| | MIRAPS10A | 5.325 | 15.25 | 26.5 | 69.5 | Branding | Extrap. |
| | MIRAPS10A/230 | 5.325 | 15.25 | 26.5 | 69.5 | Branding | Extrap. |
| | XLS-APS10A | 5.325 | 15.25 | 26.5 | 69.5 | Branding | Extrap. |
| | XLS-APS10A/230 | 5.325 | 15.25 | 26.5 | 69.5 | Branding | Extrap. |
| | EAPS10A | 5.325 | 15.25 | 26.5 | 69.5 | Branding | Extrap. |
| | EAPS10A/230 | 5.325 | 15.25 | 26.5 | 69.5 | Branding | Extrap. |
| | APS10A/230 | 5.325 | 15.25 | 26.5 | 69.5 | Branding | Extrap. |
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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2001221



| Manufacturer: Edwards, a Div. of UTC Fire & Security Ameri | | Table Description: EST 3X Electrical Components | | | TABLE 4 |
|---|---------------------|--|---|----------------------------------|----------------|
| Model Line: EST 3X Fire Alarm Protection System | | (All modules are a variation of 3-ZA40A, <1lb.) | | | |
| 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 |
| Audio Module | UTC | 3X-PMI | Audio System Control and Paging Interface | | 1 |
| | | EAEC | Emergency Audio Evacuation Controller | | 1 |
| Amplifier Module | UTC | 3-ZA20A | 20 Watt Zoned Amplifier, Class A, 25 or 70Vrms | Depopulated 3-ZA40A | Interp. |
| | | 3-ZA20B | 20 Watt Zoned Amplifier, Class B, 25 or 70Vrms | Depopulated 3-ZA40A | Interp. |
| | | 3-ZA40A | 40 Watt Zoned Amplifier, Class A, 25 or 70Vrms | | 1 |
| | | 3-ZA40B | 40 Watt Zoned Amplifier, Class B, 25 or 70Vrms | Depopulated 3-ZA40A | Interp. |
| Communications Module | UTC | 3-MODCOM | Modem Communicator and Dialer | Depopulated 3-ZA40A | Interp. |
| | | 3-MODCOMP | Modem Communicator/Dialer w/ pager option | Depopulated 3-ZA40A | Interp. |
| Device Circuit Module | UTC | 3-IDC 8/4 | Initiating / Indicating Device Circuit Module | Depopulated 3-ZA40A | Interp. |
| Loop Controller | UTC | 3-SDDC1 | Signature Dual Driver Controller (LRM) | Depopulated 3-ZA40A | Interp. |
| | | 3-SSDC1 | Signature Single Driver Controller (LRM) | Depopulated 3-ZA40A | Interp. |
| | | 3-AADC1 | Analog Driver Controller (LRM) | Depopulated 3-ZA40A | Interp. |
| Signal Module | UTC | 3-OPS | Off Premise Signal Module | Depopulated 3-ZA40A | Interp. |
| Output Module | UTC | CDR3 | Bell Coder | | 1 |
| Communications Module | UTC | 3X-NET8 | Network Option Card, RS485, 8 node maximum | Same as VM-NOC/branding/software | Interp. |
| | | 3X-NET | Network Option Card, RS485, Class A/B wiring | Same as 3X-NET/software change | Interp. |
| | | 3X-FIB8 | Network Option Card, Fiber, 8 node maximum | | 1 |
| | | 3X-FIB | Network Option Card, Fiber, 64 node maximum | Same as 3X-FIB8/software change | Interp. |
| | | 3-FIBMB2 | Fiber Card, /w adaptor card, ribbon cable | | 1 |
| | | 3X-ETH1 | Ethernet Adapter, 10/100, prov. ethernet connection | | 1 |
| | | 3X-ETH2 | Ethernet Adapter, 10/100, prov. ethernet connection | | Interp. |
| | | 3X-ETH3 | Ethernet Adapter, 10/100, prov. ethernet connection | | Interp. |
| | | SMXHI | Single mode plug-in Transceiver- Long Range | Option card used on 3-FIBMB2 | Interp. |

TRU Compliance, by Structural Integrity Associates, Inc.

844-TRU-0200 | info@trucompliance.com

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2001221



| | | | | |
|----------------------|--|---------------------------|---|----------------|
| Manufacturer: | Edwards, a Div. of UTC Fire & Security Ameri | Table Description: | EST 3X Electrical Components | TABLE 4 |
| Model Line: | EST 3X Fire Alarm Protection System | | (All modules are a variation of 3-ZA40A, <1lb.) | |

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 |
|-----------------------------|---------------------|---------------------------------------|---|---------------------------------------|---------|
| Communications Module | UTC | SMXH12 | Single mode plug-in Transceiver- Long Range | Option card used on 3-FIBMB2 | Interp. |
| | | SMXLO | Single mode plug-in Transceiver- Short Range | Option card used on 3-FIBMB2 | Interp. |
| | | SMXLO2 | Single mode plug-in Transceiver- Long Range | Option card used on 3-FIBMB2 | Interp. |
| | | CLA-PS10 | Class A Adapter, PS10, NAC's | | 1 |
| Transeiver Module | UTC | MMXVR | Multimode plug-in Transceiver | | 1 |
| Cabinet Accessory | UTC | TRIM6 | FLASH TRIM | | 1 |
| Power Supply | UTC | PS10-4B | Power Supply, Replacement | | 1 |
| User Interface & CPU Module | UTC | SFS1-ELEC | Base Electronics w/English Language Inserts | | 1 |
| | | SFS1i-ELEC | Base Electronics w/International Language Kit Inserts | | Interp. |
| Language Kit | UTC | 4x-LKE | 4X Insert Kit EURO ENGLISH | | 1 |
| | | 4x-LKC | 4X Insert Kit CHINESE | | Interp. |
| | | 4x-LKF | 4X Insert Kit FRENCH | | Interp. |
| | | 4x-LKR | 4X Insert Kit RUSSIAN | | Interp. |
| | | 4x-LKS | 4X Insert Kit SPANISH | | Interp. |
| Display Module | UTC | 4x-12/S1GY | LED Display/Control Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 4x-12/S1RY | LED Display/Control Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 4x-12SR | LED Display/Control Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 4x-24R | LED Display Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 4X-24Y | LED Display Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 4x-12RY | LED Display Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 4x-6/3S1G2Y | LED & Switch Module | | 1 |
| | | 4x-6/3S1GYR | LED & Switch Module | Similar to 4x-6/3S1G2Y | Interp. |
| 4x-4/3SGYWR | LED & Switch Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. | | |

TRU Compliance, by Structural Integrity Associates, Inc.
844-TRU-0200 | info@trucompliance.com

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2001221



| | | |
|---|--|----------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security Ameri | Table Description: EST 3X Electrical Components | TABLE 4 |
| Model Line: EST 3X Fire Alarm Protection System | (All modules are a variation of 3-ZA40A, <1lb.) | |

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

| Component Type | Manufacturer | Model | Description | Notes | UUT |
|-------------------|--------------|------------|---------------------------------|---------------------------------------|---------|
| Display Module | UTC | 3-12/S1GY | LED Display/Control Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 3-12/S1RY | LED Display/Control Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 3-12/S2Y | LED Display/Control Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 3-12RY | LED Display Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 3-12SG | LED Display/Control Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 3-12SR | LED Display/Control Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 3-12SY | LED Display/Control Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 3-24G | LED Display Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 3-24R | LED Display Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 3-24Y | LED Display Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 3-4/3SGYWR | LED & Switch Module | Similar to 4x-6/3S1G2Y-fewer switches | Interp. |
| | | 3-6/3S1G2Y | LED & Switch Module | Similar to 4x-6/3S1G2Y | Interp. |
| | | 3-6/3S1GYR | LED & Switch Module | Similar to 4x-6/3S1G2Y | Interp. |
| Driver Module | UTC | 3-LDSM | Annunciator Driver Module (LRM) | Depopulated 3-ZA40A | Interp. |
| Cabinet Accessory | UTC | 4X-LRMF | Blank LRM Filler | | Interp. |
| | | 3-TAMP | Tamper Switch | | 1 |
| | | 4X-DR | Blank, Annunciator Door Asembly | Depopulated/fewer LED display modules | Extrap. |
| | | | | | |
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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2001221



| Manufacturer: Edwards, a Div. of UTC Fire & Security Ameri | | Table Description: EST VM Electrical Components | | | TABLE 5 |
|---|---------------------|--|--|---------------------------|----------------|
| Model Line: EST VM Fire Control Protection System | | | | | |
| 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 |
| Audio Module | UTC | VM-PMI | Audio System Control /Paging Interface | | 2 |
| | | VM-MFK | Master Firefighters telephone Kit | | 2 |
| | | ACHS | Audio Channel Selector, 1 channel | | 2 |
| | | AMK-RN | Audio mounting kit | | 2 |
| Control Module | UTC | EAEC | Emergency Audio Evacuation Controller | | 2 |
| Display Module | UTC | D12LS-VM | Control/Indicating Display | | 2 |
| Loop Module | UTC | VM-SLC | Loop Expansion, VM systems | | 2 |
| Communication Module | UTC | VM-DACT | Dialer, dual line | Same as SA-DACT/branding | Interp. |
| | | VM-NOC | Network Option Card, RS485 | | 2 |
| | | VM-NOCF | Fiber Optic Communications Interface | 3X-FIB8 w/Software change | Interp. |
| | | SMXH1 | Single mode plug-in Transceiver- Long Range | MMXVR w/Frequency change | Interp. |
| | | SMXH2 | Single mode plug-in Transceiver- Long Range | MMXVR w/Software change | Interp. |
| | | SMXLO | Single mode plug-in Transceiver- Short Range | MMXVR w/Frequency change | Interp. |
| | | SMXLO2 | Single mode plug-in Transceiver- Short Range | MMXVR w/Software change | Interp. |
| | | VM-ETH1 | Ethernet Adapter Module | | 2 |
| | | VM-ETH2 | Ethernet Adapter Module | | Interp. |
| | | VM-ETH3 | Ethernet Adapter Module | | Interp. |
| Transeiver Module | UTC | MMXVR | Multimode plug-in Transceiver | | 1 |
| User Interface/CPU Mod. | UTC | VM-ELEC | Base Electronics | | 2 |
| Power Supply | UTC | PS10-4B | Power Supply, Replacement | | 2 |
| Output Module | UTC | CDR3 | Coder Module | | 2 |
| Cabinet Accessory | UTC | 3-TAMP | Tamper Switch | | 2 |

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2001221



| | | |
|---|--|----------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security Ameri | Table Description: EST Small Analog Electrical Components | TABLE 6 |
| Model Line: EST Small Analog Fire Protection System | | |

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 |
|-----------------------------|--------------|-----------|---|-------------------|---------|
| Cabinet Accessory | UTC | SA-TRIM1 | Small Cabinet Trim Kit for semi-flush mt. | | 9 |
| | | SA-TRIM2 | Large Cabinet Trim Kit for semi-flush mt. | | 4 |
| Communication Module | UTC | SA-DACT | Dialer | | 4 |
| | | SA-232 | RS232 Module | | 4 |
| | | SA-USB | USB Module | Similar to SA-232 | Interp. |
| | | SA-CLA | Class A Adapter | | 4 |
| | | SA-ETH | Ethernet Adapter | | 4 |
| | | | | | |
| Display Module | UTC | D16L-iO-x | 16 Zone Front Panel LED Annunciator | | 4 |
| | | D8RY-iO-x | 16 Zone Front Panel LED Annunciator | | Interp. |
| | | D16L-VS | 16 Zone Front Panel LED Annunciator | | Interp. |
| | | D8RY-VS | 16 Zone Front Panel LED Annunciator | | Interp. |
| | | D16L-Fa | 16 Zone Front Panel LED Annunciator | | 5 |
| Loop Module | UTC | FX-SLC2 | SLC Loop Driver | | Interp. |
| | | XAL250 | SLC Loop Driver | | 4 |
| | | iO-SDC1 | SLC Loop Driver | | Interp. |
| | | iO-SDC2 | SLC Loop Driver | | Interp. |
| | | V-SLC2-1 | SLC Loop Driver | | Interp. |
| | | V-SLC2-2 | SLC Loop Driver | | Interp. |
| | | V-SLC | SLC Loop Driver | | Interp. |
| | | FX-SLC1 | SLC Loop Driver | | Interp. |
| | | XAL127 | SLC Loop Driver | | 5 |
| User Interface & CPU Module | UTC | RZI-MPL | Mounting Bracket | | 8 |
| | | iO64-RE | Electronic replacement part/Single Loop | | Interp. |

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2001221



| | | |
|---|--|----------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security Ameri | Table Description: EST Small Analog Electrical Components | TABLE 6 |
| Model Line: EST Small Analog Fire Protection System | | |

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 |
|-----------------------------|--|---|---|--|---------|
| User Interface & CPU Module | UTC | 64elec-iO | Electronic replacement part/Single Loop | Depopulated 500elec-iO | Interp. |
| | | iO64-RE-SP | Electronic replacement part/Spanish | Similar to 64elec-iO. Installed w/iO-SDC1 | Interp. |
| | | 64elec-iO-SP | Electronic replacement part/Spanish | Depopulated 500elec-iO/language | Interp. |
| | | iO64-RE-PG | Electronic replacement part/Portuguese | Similar to 64elec-iO. Installed w/iO-SDC1 | Interp. |
| | | 64elec-iO-PG | Electronic replacement part/Portuguese | Depopulated 500elec-iO/language | Interp. |
| | | iO64-RE-F | Electronic replacement part/French | Similar to 64elec-iO. Installed w/iO-SDC1 | Interp. |
| | | 64elec-iO-FR | Electronic replacement part/French | Depopulated 500elec-iO/language | Interp. |
| | | IO1000-RE | Electronic replacement part/Dual Loop | Similar to 500elec-iO. Installed w/iO-SDC1 | Interp. |
| | | 500elec-iO | Electronic replacement part/Dual Loop | | 5 |
| | | IO1000-RE-SP | Electronic replacement part/Spanish | Similar to 500elec-iO. Installed w/iO-SDC1 | Interp. |
| | | 500elec-iO-SP | Electronic replacement part/Spanish | Depopulated 500elec-iO/language | Interp. |
| | | IO1000-RE-PG | Electronic replacement part/Portuguese | Similar to 500elec-iO. Installed w/iO-SDC1 | Interp. |
| | | 500elec-iO-PG | Electronic replacement part/Portuguese | Depopulated 500elec-iO/language | Interp. |
| | | IO1000-RE-F | Electronic replacement part/French | Similar to 500elec-iO. Installed w/iO-SDC1 | Interp. |
| | | 500elec-iO-FR | Electronic replacement part/French | Depopulated 500elec-iO/language | Interp. |
| | | VS1-RE | Electronic replacement part/Single Loop | Similar to 64elec-VS. Installed w/V-SLC-1 | Interp. |
| | | 64elec-VS | Electronic replacement part/Single Loop | Depopulated 500elec-iO/language | Interp. |
| | | VS1-RE-SP | Electronic replacement part/Spanish | Similar to 64elec-VS. Installed w/V-SLC-1 | Interp. |
| | | 64elec-VS-SP | Electronic replacement part/Spanish | Depopulated 500elec-iO/language | Interp. |
| | | VS1-RE-PG | Electronic replacement part/Portuguese | Similar to 64elec-VS. Installed w/V-SLC-1 | Interp. |
| 64elec-VS-PG | Electronic replacement part/Portuguese | Depopulated 500elec-iO/language | Interp. | | |
| VS1-RE-F | Electronic replacement part/French | Similar to 64elec-VS. Installed w/V-SLC-1 | Interp. | | |
| 64elec-VS-FR | Electronic replacement part/French | Depopulated 500elec-iO/language | Interp. | | |

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 2001221



| | | |
|---|--|----------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security Ameri | Table Description: EST Small Analog Electrical Components | TABLE 6 |
| Model Line: EST Small Analog Fire Protection System | | |

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 |
|-----------------------------|--------------|------------------|--|--|---------|
| User Interface & CPU Module | UTC | VS4-RE | Electronic replacement part/Dual Loop | Similar to 500elec-VS. Installed w/V-SLC-1 | Interp. |
| | | 500elec-VS | Electronic replacement part/Dual Loop | 500elec-iO/language change | Interp. |
| | | VS4-RE-SP | Electronic replacement part/Spanish | Similar to 500elec-VS. Installed w/V-SLC-1 | Interp. |
| | | 500elec-VS-SP | Electronic replacement part/Spanish | 500elec-iO/language change | Interp. |
| | | VS4-RE-PG | Electronic replacement part/Portuguese | Similar to 500elec-VS. Installed w/V-SLC-1 | Interp. |
| | | 500elec-VS-PG | Electronic replacement part/Portuguese | 500elec-iO/language change | Interp. |
| | | VS4-RE-F | Electronic replacement part/French | Similar to 500elec-VS. Installed w/V-SLC-1 | Interp. |
| | | 500elec-VS-FR | Electronic replacement part/French | 500elec-iO/language change | Interp. |
| | | 64elec-FSA | Electronic replacement subassembly | Depopulated 254elec-FSA | Interp. |
| | | 254elec-FSA | Electronic replacement subassembly | | 5 |
| | | FX-64-RE | Electronic replacement subassembly | Similar to 64elec-FX. Installed w/FX-SLC1 | Interp. |
| | | 64elec-FX | Electronic replacement subassembly | Depopulated 254elec-FX | Interp. |
| | | FX-1000-RE | Electronic replacement subassembly | Similar to 64elec-FX. Installed w/FX-SLC1 | Interp. |
| | | ADT-64elec- FSA | Electronic replacement subassembly | Depopulated 254elec-FX/Branding | Interp. |
| | | ADT-254elec- FSA | Electronic replacement subassembly | Same as 254elec-FX/Branding | Interp. |
| | | 254elec-FX | Electronic replacement subassembly | | 5 |
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UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2001221



| | |
|---|--------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security America Corp., Inc. | UUT 1 |
| Model Line: Custom Fire Alarm Control Panels | |
| Model Number: 3X-SFS1-B Serial Number: N/A | |

Product Construction Summary:
Fire alarm control panel comprised of 16 Ga. carbon steel back box, door, and internal control electronics with user interface.

Options/Subcomponent Summary:
CAB6B , CAB6DR, TRIM6 , 3X-FIB8, MMXVR, PS10-4B, CLA-PS10, SFS1-ELEC (w/ 4x-LKE), 3-SDC1, 3-ZA40A, EAEC, 3X-PMI, 17 Ahr Batteries, 4x-6/3S1G2Y, 3-TAMP, CDR3, 3-FIBMB2, 3X-ETH1.

UUT Properties

| Weight (lb) | Dimension (in) | | | Lowest Natural Frequency (Hz) | | |
|-------------|----------------|-------|--------|-------------------------------|-----------|----------|
| | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| 96 | 7 | 22 | 36 | 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 | 2.5 | 1.0 | 1.5 | 4.0 | 3.0 | 1.67 | 0.67 |

Test Mounting Details:



The unit was rigid wall mounted on 1-3/8" strut with (4) 1/4" toggle bolts through factory punched holes in the cabinet using 1/4" standard washers inside the cabinet.
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. 2001221



| | |
|---|--------------|
| Manufacturer: Edwards, a Div. of UTC Fire & Security America Corp., Inc. | UUT 2 |
| Model Line: Custom Fire Alarm Control Panels | |
| Model Number: VM-1S Serial Number: N/A | |

Product Construction Summary:
Fire alarm control panel comprised of 16 Ga. carbon steel backbox, door, and internal control electronics with user interface.

Options/Subcomponent Summary:
CAB6B, VMDR, TRIM6, VM-NOC, PS10-4B, CLA-PS10, VM-ELEC, VM-SLC, ACHS, EAEC, VM-PMI, VM-MFK, 17 Ahr Batteries, D12LS-VM, 3-Tamp, VM-ETH1, CDR3

| UUT Properties | | | | | | |
|----------------|----------------|-------|--------|-------------------------------|-----------|----------|
| Weight (lb) | Dimension (in) | | | Lowest Natural Frequency (Hz) | | |
| | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| 96 | 7 | 22 | 36 | 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 | 2.5 | 1.0 | 1.5 | 4.0 | 3.0 | 1.67 | 0.67 | |

Test Mounting Details:



The unit was rigid wall mounted on 1-3/8" strut with (4) #10-24 toggle bolts through factory punched holes in the cabinet using 3/16" standard washers inside the cabinet.
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. 2001221



| | | |
|-----------------------|--|--------------|
| Manufacturer: | Edwards, a Div. of UTC Fire & Security America Corp., Inc. | UUT 4 |
| Model Line: | Custom Fire Alarm Control Panels | |
| Model Number: | iO500 FACP | |
| Serial Number: | | N/A |

Product Construction Summary:
Fire alarm control panel comprised of 16 Ga. carbon steel backbox, door, and internal control electronics.

Options/Subcomponent Summary:
SA-DACT, XAL250, SA-232, SA-CLA, SA-ETH, D16L-iO-x, TRIM Kit.

UUT Properties

| Weight (lb) | Dimension (in) | | | Lowest Natural Frequency (Hz) | | |
|-------------|----------------|-------|--------|-------------------------------|-----------|----------|
| | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| 27 | 4.5 | 15.75 | 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 | 2.5 | 1.0 | 1.5 | 4.0 | 3.0 | 1.67 | 0.67 |

Test Mounting Details:



The unit was rigid wall mounted using (4) #10-24 toggle bolts through factory punched holes in the cabinet and the plywood wall with 3/16" standard washers inside the cabinet.
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. 2001221



| | | |
|----------------------|--|--------------|
| Manufacturer: | Edwards, a Div. of UTC Fire & Security America Corp., Inc. | UUT 5 |
| Model Line: | Custom Fire Alarm Control Panels | |
| Model Number: | FX-254 FACP | |

Product Construction Summary:
Fire alarm control panel comprised of 16 Ga. carbon steel backbox, door, and internal control electronics.

Options/Subcomponent Summary:
SA-DACT, XAL250, SA-232, SA-CLA, SA-ETH, D16L-Fa, TRIM Kit.

UUT Properties

| Weight (lb) | Dimension (in) | | | Lowest Natural Frequency (Hz) | | |
|-------------|----------------|-------|--------|-------------------------------|-----------|----------|
| | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| 27 | 4 | 15.75 | 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 | 2.5 | 1.0 | 1.5 | 4.0 | 3.0 | 1.67 | 0.67 |

Test Mounting Details:



See next page for modifications made to the UUT to address anomalies observed during testing. Modification shall be incorporated into production units.

The unit was rigid wall mounted using (4) #10-24 toggle bolts through factory punched holes in the cabinet and the plywood wall with 3/16" standard washers inside the cabinet.
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. 2001221



Manufacturer: Edwards, a Div. of UTC Fire & Security America Corp., Inc.
Model Line: Custom Fire Alarm Control Panels
Model Number: FX-254 FACP
Serial Number: N/A

UUT 5

UUT 5 Modification:

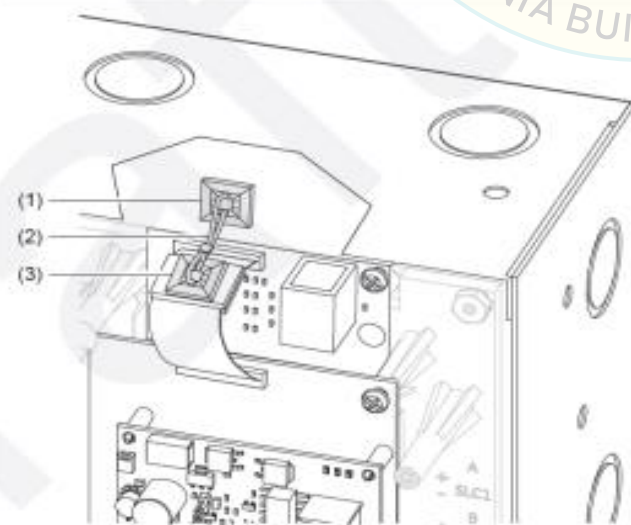
UTC Ribbon Cable Restraint

During testing of the FX254-FACP cabinet, the ribbon cable connecting the standoff portion of the SA-ETH module to the motherboard was loosened. The VS1 cabinet had the same standoff-motherboard connections and it did not come loose during testing. Both units remained functional, but a cable restraint has been designed and implemented by UTC and is detailed as shown below:

To secure the SA-ETH Ethernet card ribbon cable:

1. Open an alcohol wipe and clean the top of the ferrite on the SA-ETH ribbon cable where a 1-inch square cable mount will be placed. See Figure 3.
2. Clean an area on the cabinet rear wall for a second cable mount. The area must be located so a cable tie can loop from the ferrite cable mount to the wall cable mount.
3. Remove the adhesive paper from the backs of the cable mounts and attach the mounts to the cleaned areas.
4. Thread a cable tie through the slot in the cable mount on the ferrite, and then through the cable mount on the wall.
5. Loop the cable tie back and tighten it. Cut off any excess. Do not over-tighten the cable tie, to avoid pulling the cable mounts away from their surfaces.

Figure 3: Installing the cable mounts and cable tie for an SA-ETH ribbon cable



- (1) Cable mount on the cabinet rear wall
- (2) Cable tie
- (3) Cable mount on the ribbon cable ferrite clamp

Regulatory information

| | |
|----------------------------|---|
| Manufacturer | Edwards, A Division of UTC Fire & Security Americas Corporation, Inc. 8985 Town Center Parkway, Bradenton, FL 34202, USA |
| Year of manufacture | The first two digits of the date of manufacture (located on the product identification label) are the year of manufacture. |
| Environmental class | UL: Indoor dry |

Contact information

For contact information, see www.utcfireandsecurity.com.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 2001221



| | | |
|-----------------------|--|--------------|
| Manufacturer: | Edwards, a Div. of UTC Fire & Security America Corp., Inc. | UUT 8 |
| Model Line: | Custom Fire Alarm Control Panels | |
| Model Number: | APS10A | |
| Serial Number: | | N/A |

Product Construction Summary:
16 Ga. carbon steel backbox with vented door and amplifiers mounted inside.

Options/Subcomponent Summary:
Two SIGA-AA50 amplifiers.

| <i>UUT Properties</i> | | | | | | |
|-----------------------|----------------|-------|--------|-------------------------------|-----------|----------|
| Weight (lb) | Dimension (in) | | | Lowest Natural Frequency (Hz) | | |
| | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| 69.5 | 5.25 | 15 | 26 | 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 | 2.5 | 1.0 | 1.5 | 4.0 | 3.0 | 1.67 | 0.67 | |

Test Mounting Details:



The unit was rigid wall mounted on 1-3/8" strut with (4) 1/4"-20 toggle bolts through factory punched holes in the cabinet using 1/4" standard washers inside the cabinet.
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. 2001221



| | | |
|----------------------|--|--------------|
| Manufacturer: | Edwards, a Div. of UTC Fire & Security America Corp., Inc. | UUT 9 |
| Model Line: | Custom Fire Alarm Control Panels | |
| Model Number: | VS1 | |

Product Construction Summary:
Fire alarm control panel comprised of steel backbox, door, and internal control electronics and user interface.

Options/Subcomponent Summary:
SA-DACT, SA-232, SA-CLA, SA-ETH, TRIM Kit.

UUT Properties

| Weight (lb) | Dimension (in) | | | Lowest Natural Frequency (Hz) | | |
|-------------|----------------|-------|--------|-------------------------------|-----------|----------|
| | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| 16 | 5 | 14.25 | 21.5 | 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 | 2.5 | 1.0 | 1.5 | 4.0 | 3.0 | 1.67 | 0.67 |

Test Mounting Details:



The unit was rigid wall mounted using (4) #10-24 toggle bolts through factory punched holes in the cabinet and the plywood wall with 3/16" standard washers used inside the cabinet.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.