



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0077-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Fike Corporation

Manufacturer's Technical Representative: Brent Mlika

Mailing Address: 704 SW 10th Street, Blue Springs, MO 64015

Telephone: (816) 229-3405 Email: Brent.Mlika@Fike.com

Product Information

Product Name: SHP-Pro, CyberCat 1016, CyberCat 254, CyberCat 50, Cheetah Xi, Cheetah Xi 50, Intelligent Smoke Control

Product Type: Electrical equipment

Product Model Number: See attachment

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

General Description: The units are comprised of painted carbon steel enclosures (NEMA 1) and a combination of lights, switches, controllers, BUS devices, transformers and batteries.

Mounting Description: Rigid Wall mounted

Applicant Information

Applicant Company Name: Dynamic Certification Laboratories, LLC

Contact Person: Joseph La Brie, S.E.

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

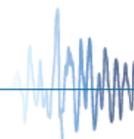
Telephone: (775) 358-5085 Email: labrie@makeitright.net

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant:  Date: 8/18/14

Title: Managing Partner Company Name: Dynamic Certification Laboratories

"Access to Safe. Quality Healthcare Environments that Meet California's Diverse and Dvnamic 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: Dynamic Certification Laboratories

Name: Dr. Ahmad Itani, S.E. California License Number: SE-5220

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

Telephone: (775) 358-5085 Email: Itani@shaketest.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

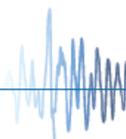
Company Name: Dynamic Certification Laboratories

Contact Name: Kelly Laplace, Quality Manager

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

Telephone: (775) 358-5085 Email: Kelly@shaketest.com

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





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

Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.50

S_{DS} (Design spectral response acceleration at short period, g) = 2.0

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) = 2.5

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1

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 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, 2010: Yes No

List of Attachments Supporting Special Seismic Certification

Test Report(s) Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): _____

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2019

Signature:  Date: 9/11/14

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.0 z/h = 1.0

Condition of Approval (if applicable): _____



Special Seismic Certification

Certified Components



Manufacturer: Fike

Product Line: Fire detection equipment line

Certified Product Construction: Painted carbon steel (NEMA 1)

Certified Options: Enclosures, lights, switches, controllers, BUS devices, transformers and batteries

Certified Mounting Description: Rigid wall mount

| Model Number | Manufacturer | Description | NEMA Rating | Dimensions (inches) | | | Max Operating Weight (lb) | Mounting | Sds (g), z/h=1 | UUT |
|------------------|--------------|---|-------------|---------------------|-------|--------|---------------------------|------------------|----------------|--------------|
| | | | | Depth | Width | Height | | | | |
| 10-063-m-c-p | Fike | SHP Pro Control System | 1 | 4.8 | 15.5 | 22.3 | 22 | Rigid wall mount | 2.00 | UUT1 |
| 10-071-c-p | | Cheetah Xi 50 System | 1 | 4.8 | 15.4 | 22.1 | 25 | | | UUT3 |
| 10-071-c-p-d | | Cheetah Xi 50 System | 1 | 4.8 | 15.4 | 22.1 | 25 | | | Interpolated |
| 10-070-c-p | | CyberCat 50 System | 1 | 4.8 | 15.4 | 22.1 | 25 | | | Interpolated |
| 10-070-c-p-d | | CyberCat 50 System | 1 | 4.8 | 15.4 | 22.1 | 25 | | | Interpolated |
| 10-068-c-p | | Cheetah Xi System | 1 | 4.7 | 15.4 | 23.6 | 31 | | | Interpolated |
| 10-068-c-p-L | | Cheetah Xi System | 1 | 4.7 | 15.4 | 23.6 | 31 | | | UUT2 |
| 10-064-c-p-L-d-o | | CyberCat 1016 System | 1 | 5.7 | 24.6 | 41.2 | 59 | | | UUT4a |
| 10-066-c-p-L-d-o | | CyberCat 254 System | 1 | 5.7 | 24.6 | 41.2 | 59 | | | Interpolated |
| 10-2154-c | | Battery Enclosure | 1 | 5.8 | 21.0 | 11.0 | 66 | | | UUT4b |
| 10-2236-c | | Battery Enclosure | 1 | 7.0 | 26.3 | 14.0 | 143 | | | UUT4c |
| 10-2690-B | | Intelligent Smoke Control Graphic Annunciator | 1 | 4.0 | 14.0 | 14.0 | 15 | | | UUT6 |
| 10-2691-B | | Intelligent Smoke Control Graphic Annunciator | 1 | 4.0 | 24.0 | 24.0 | 25 | | | Interpolated |
| 10-2692H-B | | Intelligent Smoke Control Graphic Annunciator | 1 | 4.0 | 36.0 | 24.0 | 38 | | | Interpolated |
| 10-2692V-B | | Intelligent Smoke Control Graphic Annunciator | 1 | 4.0 | 24.0 | 36.0 | 38 | | | Interpolated |
| 10-2693H-B | | Intelligent Smoke Control Graphic Annunciator | 1 | 4.0 | 36.0 | 30.0 | 67 | | | Interpolated |
| 10-2693V-B | | Intelligent Smoke Control Graphic Annunciator | 1 | 4.0 | 30.0 | 36.0 | 67 | | | UUT5 |

*Note: In model number, m relates to mode (1=all modes, 2=sprinkler mode only); c relates to enclosure color (B=black, G=gray, R=red); L=lexan; p relates to voltage (1=120V, 2= 240V); d=deadfront; o relates to overlay color (B=black, R=red)

Deadfront options (d):

Blank = standard enclosure – no dead-front

0 = standard enclosure – solid dead-front

3 = standard enclosure – 3 card dead-front

13 = extended enclosure – 13 card dead-front

19 = fire command center enclosure -19 card dead-front

23 = fire command center enclosure – 23 card dead-front

Special Seismic Certification Certified Subcomponents



Manufacturer: Fike

Product Line: Fire detection equipment line

Subcomponent: Enclosures

| Enclosures | | | | | | | | | |
|-----------------|--------------|---|--|------------|-------|--------|----------------------|---------------------------|---------------------------|
| Model Number | Manufacturer | Type | Description | Dimensions | | | Material | NEMA Rating | Unit |
| | | | | Depth | Width | Height | | | |
| 10-2453-c | Fike | Shp Pro | Standard | 4.8 | 15.5 | 22.3 | Painted carbon steel | 1 | UUT1 |
| 10-2541-c | Fike | Cheetah Xi | Standard | 4.7 | 15.4 | 23.6 | | 1 | UUT2 |
| 10-2541-c-L | Fike | Cheetah Xi | Standard | 4.7 | 15.4 | 23.6 | | 1 | Interpolated ¹ |
| 10-2621-c | Fike | CyberCat 50 | Standard | 4.8 | 15.4 | 22.1 | | 1 | Interpolated ² |
| 10-2621-c-d | Fike | CyberCat 50 | Standard | 4.8 | 15.4 | 22.1 | | 1 | Interpolated ² |
| 10-2623-c | Fike | Cheetah Xi 50 | Standard | 4.8 | 15.4 | 22.1 | | 1 | UUT3 |
| 10-2623-c-d | Fike | Cheetah Xi 50 | Deadfront | 4.8 | 15.4 | 22.1 | | 1 | Interpolated ² |
| 10-2483-c-L-d-o | Fike | CyberCat 1016 | Standard | 5.7 | 24.6 | 41.2 | | 1 | UUT4a |
| 10-2527-c-L-d-o | Fike | CyberCat 254 | Standard | 5.7 | 24.6 | 41.2 | | 1 | Interpolated ³ |
| 10-2783-c-o | Fike | CyberCat 254 or 1016 | Smoke 15 card Dead front EXD-Enclosure Red/Black overlay | 5.6 | 24.6 | 24.5 | | 1 | Interpolated ³ |
| 10-2753-c-o | Fike | | Retrofit 16 Card Dead front Enclosure Red/Black overlay | 5.6 | 24.6 | 31.1 | | 1 | Interpolated ³ |
| 10-2771-c fcc | Fike | | w/21 Card Dead Front Enclosure Black Overlay | 6.6 | 24.6 | 41.1 | | 1 | Interpolated ³ |
| 10-2771-c-r fcc | Fike | | w/21 Card Dead Front Enclosure Red Overlay | 6.6 | 24.6 | 41.1 | | 1 | Interpolated ³ |
| 10-2772-c fcc | Fike | | w/25 Card Dead Front Enclosure Black Overlay | 6.6 | 24.6 | 41.1 | | 1 | Interpolated ³ |
| 10-2772-c-r fcc | Fike | | w/25 Card Dead Front Enclosure Red Overlay | 6.6 | 24.6 | 41.1 | | 1 | Interpolated ³ |
| 10-2754-c | Fike | | 3 AMP Enclosure | 5.7 | 24.6 | 41.2 | | 1 | Interpolated ³ |
| 10-2755-c | Fike | | 5 AMP Enclosure | 5.7 | 24.6 | 52.7 | | 1 | Interpolated ³ |
| 10-2628-c | Fike | | Deadfront, 50 Point Panel | 1.3 | 14.3 | 23.0 | | 1 | Interpolated ³ |
| 10-2695-c | Fike | | Solid Deadfront Kit for Standard Enclosure | 1.9 | 24.6 | 22.5 | | 1 | Interpolated ³ |
| 10-2696-c | Fike | 3 Module Deadfront Kit for Standard Enclosure | 1.9 | 24.6 | 22.5 | 1 | | Interpolated ³ | |

1. Represented by UUT2 test

2. Represented by UUT3 test

3. Represented by UUT4a test

*Note: In model number, c relates to enclosure color (B=black, G=gray, R=red); L=lexan; p relates to voltage (1=120V, 2= 240V); d=deadfront; o relates to overlay color (B=black, R=red)

Deadfront options (d)

Blank = standard enclosure – no dead-front

0 = standard enclosure – solid dead-front

3 = standard enclosure – 3 card dead-front

13 = extended enclosure – 13 card dead-front

19 = fire command center enclosure -19 card dead-front

23 = fire command center enclosure – 23 card dead-front

Special Seismic Certification Certified Subcomponents



Manufacturer: Fike

Product Line: Fire detection equipment line

Subcomponent: Enclosures (continued)

Enclosures (Continued)

| Model Number | Manufacturer | Type | Description | Dimensions | | | Material of Construction | NEMA Rating | Unit | | | | | | |
|--------------|--------------|---|---|--------------------------------------|---------------------------------------|---------------------------------------|--------------------------|---------------------------|---------------------------------------|---------------------------------------|--------------|--------------|--------------|----------------------|---------------------------|
| | | | | Depth | Width | Height | | | | | | | | | |
| 10-2690-B | Gemcom | Intelligent Smoke Control Graphic Annunciator | Graph Ann 14"x14" w/ 10"x10" viewing window | 4.0 | 14.0 | 14.0 | Painted carbon steel | 1 | UUT6 | | | | | | |
| 10-2691-B | | | Graph Ann 24"x24" w/ 20"x20" viewing window | 4.0 | 24.0 | 24.0 | | | Interpolated | | | | | | |
| 10-2692H-B | | | Graph Ann 36"x24" w/ 32"x20" viewing window | 4.0 | 36.0 | 24.0 | | | Interpolated | | | | | | |
| 10-2692V-B | | | Graph Ann 24"x36" w/ 20"x32" viewing window | 4.0 | 24.0 | 36.0 | | | Interpolated | | | | | | |
| 10-2693H-B | | | Graph Ann 36"x30" w/ 32"x26" viewing window | 4.0 | 36.0 | 30.0 | | | Interpolated | | | | | | |
| 10-2693V-B | | | Graph Ann 30"x36" w/ 26"x32" viewing window | 4.0 | 30.0 | 36.0 | | | UUT5 | | | | | | |
| 10-2588-B | | | Backbox 14"x14" for part # 10-2690-B | N/A | 14.0 | 14.0 | Painted carbon steel | 1 | UUT6 | | | | | | |
| 10-2589-B | | | | Backbox 24"x24" for part # 10-2691-B | N/A | 24.0 | | | 24.0 | Interpolated | | | | | |
| 10-2590H-B | | | | | Backbox 36"x24" for part # 10-2692H-B | N/A | | | 36.0 | 24.0 | Interpolated | | | | |
| 10-2590V-B | | | | | | Backbox 24"x36" for part # 10-2692V-B | | | N/A | 24.0 | 36.0 | Interpolated | | | |
| 10-2591H-B | | | | | | | | | Backbox 36"x30" for part # 10-2591H-B | N/A | 36.0 | 30.0 | Interpolated | | |
| 10-2591V-B | | | | | | | | | | Backbox 30"x36" for part # 10-2693V-B | N/A | 30.0 | 36.0 | UUT5 | |
| 10-2154-R | | | Fike | | | | Battery Enclosure | Red | | | 5.8 | 21.0 | 11.0 | Painted carbon steel | 1 |
| 10-2154-G | | | | Gray | | | | 5.8 | | | 21.0 | 11.0 | 1 | | Extrapolated ¹ |
| 10-2236-R | Red | 7.0 | | 26.3 | 14.0 | | | 1 | | | UUT4b | | | | |
| 10-2236-G | Gray | 7.0 | | 26.3 | 14.0 | 1 | | Extrapolated ¹ | | | | | | | |

1. Color change only from tested subcomponent

**Special Seismic Certification
Certified Subcomponents**



Manufacturer: Fike

Product Line: Fire detection equipment line

Subcomponent: Light-emitting diodes and switches

| Light-Emitting Diodes | | | | |
|-----------------------|--------------|---|----------|--------------|
| Model Number | Manufacturer | Description | Material | Unit |
| 02-12216 | Gemcom | Red LED | Plastic | UUT5, UUT6 |
| 02-12218 | | Green LED | Plastic | UUT5, UUT6 |
| 02-12219 | | Yellow LED | Plastic | UUT5, UUT6 |
| 02-12220 | | White LED | Plastic | UUT5, UUT6 |
| Switches | | | | |
| 02-12245 | Fike | Two-Position Toggle Switch | Plastic | Extrapolated |
| 02-12172 | | Three-Position Rotary Selector Switch | Plastic | UUT5, UUT6 |
| 02-12171 | | Three-Position Toggle Switch | Plastic | UUT5, UUT6 |
| 02-12246 | | Four-Position Rotary Switch | Plastic | Extrapolated |
| 10-1903 | | 34-PIN Ribbon Cable, Control-Driver 24" | Plastic | UUT5, UUT6 |
| 10-1950 | | 34-PIN Ribbon Cable, Control-Driver 48" | Plastic | UUT5, UUT6 |

**Special Seismic Certification
Certified Subcomponents**



Manufacturer: Fike

Product Line: Fire detection equipment line

Subcomponent: Controllers

| Controllers | | | | |
|--------------|--------------|--|---------------|--------------|
| Model Number | Manufacturer | Description | Material | Unit |
| 10-2452-1 | Fike | SHP Pro Control Board all modes | Circuit Board | UUT1 |
| 10-2452-2 | | SHP Pro Control Board sprinkler mode only | Circuit Board | Interpolated |
| 10-2472 | | CyberCat 1016 Control Board w/Mounted Display | Circuit Board | Interpolated |
| 10-2472-EXD | | CyberCat 1016 Control Board w/Dead-Front Mount Display | Circuit Board | UUT4a |
| 10-2525 | | CyberCat 254 Control Board w/Mounted Display | Circuit Board | Interpolated |
| 10-2525-EXD | | CyberCat 254 Control Board w/Dead-Front Mount Display | Circuit Board | Interpolated |
| 10-2620 | | Cybercat 50 Control Board | Circuit Board | Interpolated |
| 10-2542 | | Cheetah Xi Control Board | Circuit Board | UUT2 |
| 10-2622 | | Cheetah Xi 50 Control Board | Circuit Board | UUT3 |

Special Seismic Certification Certified Subcomponents



Manufacturer: Fike

Product Line: Fire detection equipment line

Subcomponent: Controllers (continued)

| Controllers (Continued) | | | | |
|-------------------------|--------------|--|---------------|-------------------|
| Model Number | Manufacturer | Description | Material | Unit |
| 10-2528 | Bosch | BOSCH DACT, 5 zone with serial inter-face | Circuit Board | UUT1 ¹ |
| 10-2450 | Fike | Class A Input Module | Circuit Board | UUT1 |
| 10-2448 | | Class A Output Module | Circuit Board | UUT1 |
| 10-2473 | | SLM - Supplemental Loop Module (adds 2 loops 254 devices each) | Circuit Board | UUT2 |
| 10-2482 | | Network Module | Circuit Board | UUT2 |
| 10-2624 | | Fiber Optic Network Module | Circuit Board | UUT2 |
| 10-2204 | | CRM4 - Relay Module | Circuit Board | UUT1 |
| 10-2254 | | CRPM - Reverse Polarity Module | Circuit Board | UUT2 |
| 10-2627 | | Ethernet Module | Circuit Board | UUT3 |
| 10-2583 | | Multi-Interface Module | Circuit Board | UUT4a |
| 10-2746 | | Class A Speaker Card (Emergency Voice Communication System) | Circuit Board | UUT4a |
| 10-2727 | | Digital Paging Card (Emergency Voice Communication System) | Circuit Board | UUT4a |
| 10-2741 | | Paging Control Card (Emergency Voice Communication System) | Circuit Board | UUT4a |
| 10-2751 | | Digital Paging Assembly (Emergency Voice Communication System) | Circuit Board | UUT4a |
| 10-2663 | | Smoke Control Graphics Controller | Circuit Board | UUT5, UUT6 |
| 10-2665 | | Smoke Control Graphics Driver Card | Circuit Board | UUT5, UUT6 |

1. Subcomponent manufacturing process is ISO 9001 certified.

**Special Seismic Certification
Certified Subcomponents**



Manufacturer: Fike

Product Line: Fire detection equipment line

Subcomponent: Peripheral BUS devices

Peripheral BUS Devices

| Model Number | Manufacturer | Description | Material | Unit |
|--------------|--------------|---|---------------|-------|
| 10-2658 | Fike | 6 Zone Smoke Control Module (dead-front mount) | Circuit Board | UUT4a |
| 10-2659 | | Input/Output Module (dead-front mount) | Circuit Board | UUT4a |
| 10-2660 | | Twenty Zone Annunciator Module (dead-front mount) | Circuit Board | UUT4a |
| 10-2726 | | Amplifier Card (Emergency Voice Communication System) | Circuit Board | UUT4a |
| 10-2661 | | Audio Control Card (Emergency Voice Communication System) | Circuit Board | UUT4a |
| 10-2728 | | Fire-Phone Card (Emergency Voice Communication System) | Circuit Board | UUT4a |
| 10-2730 | | Supplemental Fire-Phone Card (Emergency Voice Communication System) | Circuit Board | UUT4a |
| 10-2474 | | SPS - Supplemental Power Supply | Circuit Board | UUT2 |

**Special Seismic Certification
Certified Subcomponents**



Manufacturer: Fike

Product Line: Fire detection equipment line

Subcomponent: Transformers and Supplemental Power Supplies

Transformers and Supplemental Power Supplies

| Model Number | Manufacturer | Description | Material | Unit |
|--------------|-------------------------|-----------------------------|----------------------------------|---------------------------|
| B 170716 | Hammond Power Solutions | Transformer, 120VAC primary | Painted carbon Steel and Plastic | UUT1, UUT2, UUT3, UUT4a |
| B 170717 | Hammond Power Solutions | Transformer, 240VAC primary | Painted carbon Steel and Plastic | Extrapolated ¹ |
| 2-51-0919 | MCI Transformer | Transformer,110VA,Audio | Painted Cabon Steel | UUT4a |

1. Extrapolated subcomponent is identical in size, weight and construction to the transformer tested in UUT1-UUT4.

**Special Seismic Certification
Certified Subcomponents**



Manufacturer: Fike

Product Line: Fire detection equipment line

Subcomponent: Batteries

| Batteries | | | | |
|--------------|-------------------|---|--|---------------------------|
| Model Number | Manufacturer | Description | Material | Unit |
| 10-2192 | Fike | Wiring Assembly for 7AH,12AH and 18AH Batteries (wire only) | Polypropylene Insulation with PVC Outer Jacket | UUT1 (x2) |
| 10-2517 | | Wire Assembly with Battery EOL (wire only w/ resistor) | Polypropylene Insulation with PVC Outer Jacket | Interpolated ¹ |
| SEC 1075 | REMCO/ Interstate | Battery, 12V, 7AH (requires 2 each) | Absorbed Glass Mat (AGM) | UUT1, UUT3, UUT4a |
| SLA1104 | REMCO/ Interstate | Battery, 12V, 12AH (requires 2 each) | Absorbed Glass Mat (AGM) | Interpolated ¹ |
| PC 12180 | REMCO/ Interstate | Battery, 12V, 18 AH (requires 2 each) | Absorbed Glass Mat (AGM) | UUT1, UUT2, UUT4a |
| DCM0035L | REMCO/ Interstate | Battery, 12V, 33AH (requires 2 each) | Absorbed Glass Mat (AGM) | UUT4b (x2) |
| DCM0075U | REMCO/ Interstate | Battery, 12V, 75AH (requires 2 each) | Absorbed Glass Mat (AGM) | UUT4c (x2) |

1. Subcomponent is represented by batteries tested in UUT1 and UUT4

Special Seismic Certification

Tested Components



Manufacturer: Fike

Product Line: Fire detection equipment line

Tested Product Construction: Painted carbon steel (NEMA 1)

Tested Options: Enclosures, lights, switches, controllers, BUS devices, transformers and batteries

Tested Mounting Description: Rigid wall mount

| Model Number | Manufacturer | Description | NEMA Rating | Dimensions (inches) | | | Weight (lb) | Mounting | Sds (g), z/h=1 | UUT |
|-----------------|--------------|---|-------------|---------------------|-------|--------|-------------|------------------|----------------|-------|
| | | | | Depth | Width | Height | | | | |
| 10-063-1-R-1 | Fike | SHP Pro | 1 | 4.8 | 15.5 | 22.3 | 22 | Rigid wall mount | 2.00 | UUT1 |
| 10-068-R-1-L | | Cheetah Xi | 1 | 4.7 | 15.4 | 23.6 | 31 | | 2.00 | UUT2 |
| 10-071-R-1 | | Cheetah Xi 50 | 1 | 4.8 | 15.4 | 22.1 | 25 | | 2.00 | UUT3 |
| 10-064-R-1-L-23 | | CyberCat 1016 | 1 | 5.7 | 24.6 | 41.2 | 59 | | 2.00 | UUT4a |
| 10-2154-R | | Small battery enclosure | 1 | 5.8 | 21.0 | 11.0 | 66 | | 2.00 | UUT4b |
| 10-2236-R | | Large battery enclosure | 1 | 7.0 | 26.3 | 14.0 | 143 | | 2.00 | UUT4c |
| 10-2693V-B | | Intelligent Smoke Control Graphic Annunciator | 1 | 4.0 | 30.0 | 36.0 | 67 | | 2.00 | UUT5 |
| 10-2690-B | | Intelligent Smoke Control Graphic Annunciator | 1 | 4.0 | 14.0 | 14.0 | 15 | | 2.00 | UUT6 |

UNIT UNDER TEST - Summary Sheet
UUT1



Manufacturer: Fike
Product Line: Fire detection equipment line
Model Number: SHP Pro, Model 10-063-1-R-1
Product Construction Summary: Painted carbon steel enclosure, NEMA 1
Options / Subcomponent Summary: Fike SHP control board, Bosch DACT 5-zone controller with serial interface, Fike Class A input/output modules, Fike CRM4 relay module, Hammond 120VAC transformer, 2 Remco 12V 7AH batteries with Fike wiring assembly
Unit Mounting Description: The unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure.

UUT Properties

| UUT1 | Operating Weight (lb) | Dimensions (in) | | | Lowest Natural Frequency (Hz) | | |
|------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
| | | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| | 22 | 4.8 | 15.5 | 22.3 | N/A | N/A | N/A |

Seismic Test Parameters

| Building Code | Test Criteria | Sds | z/h | Ip | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|-------------------|------|-----|-----|--------|--------|--------|--------|
| CBC 2013 | 2012 ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | 1.34 | 0.54 |



Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

UNIT UNDER TEST - Summary Sheet

UUT2



Manufacturer: Fike

Product Line: Fire detection equipment line

Model Number: Cheetah Xi, Model 10-068-R-1-L

Product Construction Summary: Painted carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Fike Cheetah Xi control board, Fike supplemental loop module, Fike Network module, Fike fiber optic network module, Fike reverse polarity module, Fike supplemental power supply BUS device, Hammond 120VAC transformer, 2 Remco 12V 18AH batteries

Unit Mounting Description: The unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure.

UUT Properties

| UUT2 | Operating Weight (lb) | Dimensions (in) | | | Lowest Natural Frequency (Hz) | | |
|------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
| | | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| | 31 | 4.7 | 15.4 | 23.6 | N/A | N/A | N/A |

Seismic Test Parameters

| Building Code | Test Criteria | Sds | z/h | Ip | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|-------------------|------|-----|-----|--------|--------|--------|--------|
| CBC 2013 | 2012 ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | 1.34 | 0.54 |



Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

UNIT UNDER TEST - Summary Sheet
UUT3



Manufacturer: Fike

Product Line: Fire detection equipment line

Model Number: Cheetah Xi 50, Model 10-071-R-1

Product Construction Summary: Painted carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Fike Cheetah Zi 50 control board, Fike ethernet module, Hammond 120VAC transformer, 2 Remco 12V 7AH batteries

Unit Mounting Description: The unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure.

UUT Properties

| UUT3 | Operating Weight (lb) | Dimensions (in) | | | Lowest Natural Frequency (Hz) | | |
|------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
| | | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| | 25 | 4.8 | 15.4 | 22.1 | N/A | N/A | N/A |

Seismic Test Parameters

| Building Code | Test Criteria | Sds | z/h | Ip | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|-------------------|------|-----|-----|--------|--------|--------|--------|
| CBC 2013 | 2012 ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | 1.34 | 0.54 |



Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

UNIT UNDER TEST - Summary Sheet
UUT4a, UUT4b, UUT4c



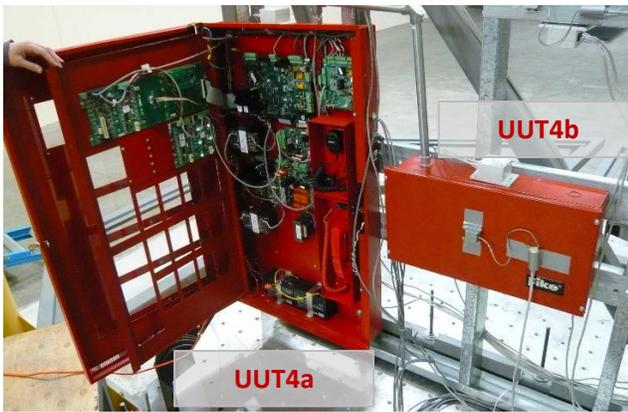
Manufacturer: Fike
Product Line: Fire detection equipment line
Model Number: Cheetah Xi 50, Model 10-071-R-1
Product Construction Summary: Painted carbon steel enclosure, NEMA 1
Options / Subcomponent Summary:
UUT4a: Fike CyberCat 1016 control board w/ dead-front mount display, Fike multi-interface module, Fike class A speaker card, Fike digital paging card, Fike paging control board, Fike digital paging assembly, Fike 6 zone smoke control module, Fike input/output module, Fike twenty zone annunciator module, Fike amplifier card, Fike audio control card, Fike fire-phone card and supplemental fire-phone card, Hammond 120VAC transformer, MCI 110VA transforme, Remco 12V 7AH battery, Remco 12V 18AH battery
UUT4b: 2 Remco 12V 33AH batteries
UUT4c: 2 Remco 12V 75AH batteries
Unit Mounting Description: Each unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure.

UUT Properties

| | Operating Weight (lb) | Dimensions (in) | | | Lowest Natural Frequency (Hz) | | |
|-------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
| | | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| UUT4a | 59 | 5.7 | 24.6 | 41.2 | N/A | N/A | N/A |
| UUT4b | 66 | 5.8 | 21.0 | 11.0 | N/A | N/A | N/A |
| UUT4c | 143 | 7.0 | 26.3 | 14.0 | N/A | N/A | N/A |

Seismic Test Parameters

| Building Code | Test Criteria | Sds | z/h | Ip | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|-------------------|------|-----|-----|--------|--------|--------|--------|
| CBC 2013 | 2012 ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | 1.34 | 0.54 |



Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

UNIT UNDER TEST - Summary Sheet

UUT5



Manufacturer: Fike

Product Line: Fire detection equipment line

Model Number: Intelligent Smoke Control Graphic Annunciator

Product Construction Summary: Painted carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: LEDs, three position rotary selector switch, three position toggle switch, smoke control module, switch/LED driver module, 34-PIN ribbon cable (24" and 48") and Fike smoke control graphics controller and smoke control graphics driver card

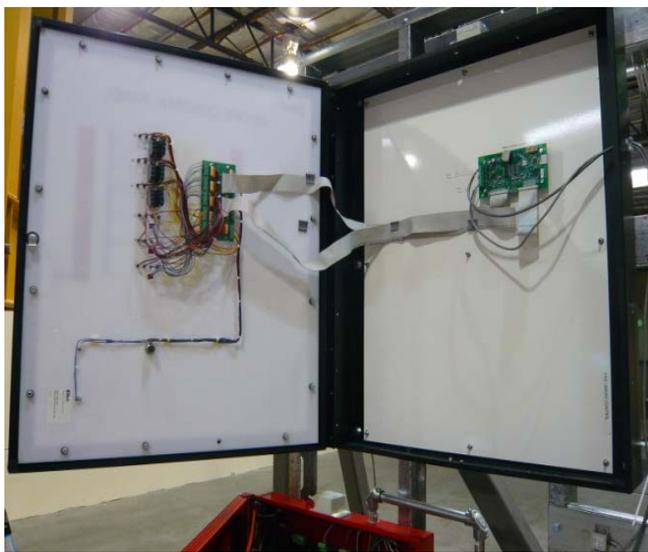
Unit Mounting Description: The unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure.

UUT Properties

| UUT5 | Operating Weight (lb) | Dimensions (in) | | | Lowest Natural Frequency (Hz) | | |
|------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
| | | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| | 67 | 4.0 | 30.0 | 36.0 | N/A | N/A | N/A |

Seismic Test Parameters

| Building Code | Test Criteria | Sds | z/h | Ip | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|-------------------|------|-----|-----|--------|--------|--------|--------|
| CBC 2013 | 2012 ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | 1.34 | 0.54 |



Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

UNIT UNDER TEST - Summary Sheet

UUT6



Manufacturer: Fike

Product Line: Fire detection equipment line

Model Number: Intelligent Smoke Control Graphic Annunciator

Product Construction Summary: Painted carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: LEDs, three position rotary selector switch, three position toggle switch, smoke control module, switch/LED driver module, 34-PIN ribbon cable (24" and 48") and Fike smoke control graphics controller and smoke control graphics driver card

Unit Mounting Description: The unit was attached to the DCL shake table interface frame with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided holes in the back of the enclosure.

UUT Properties

| UUT6 | Operating Weight (lb) | Dimensions (in) | | | Lowest Natural Frequency (Hz) | | |
|------|-----------------------|-----------------|-------|--------|-------------------------------|-----------|----------|
| | | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| | 15 | 4.0 | 14.0 | 14.0 | N/A | N/A | N/A |

Seismic Test Parameters

| Building Code | Test Criteria | Sds | z/h | Ip | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|-------------------|------|-----|-----|--------|--------|--------|--------|
| CBC 2013 | 2012 ICC-ES AC156 | 2.00 | 1.0 | 1.5 | 3.20 | 2.40 | 1.34 | 0.54 |



Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.