# APPROVAL REPORT

| | |
|---|---|
| **Project No:** | PR450735 |
| **Supplements Project No.:** | |
| **Class:** | 3010 |
| **Product Name:** | Release Switch Assemblies 10-2965, 10-2967, 10-2969, 10-2973, 10-2975, 10-2977 Countdown Timer for FM Approved Shp Pro, CyberCat 254/1016 and Cheetah Xi Fire Alarm Control Units |
| **Product Type:** | Fire Alarm Control Units |
| **Name of Listing Company:** | Fike Corp |
| **Address of Listing Company:** | 704 SW 10th Street<br>PO Box 610<br>Blue Springs MO 64013<br>United States |
| **Customer ID:** | 1000001396-1 |
| **Customer website** | www.fike.com |

**Prepared by**

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**23 October 2018**

**Date of Approval**

FM Approvals
1151 Boston-Providence Turnpike
PO Box 9102
Norwood, MA 02062

# 1 INTRODUCTION

**1.1** Fike Corp requested Approval of the apparatus listed in Section 1.4 for compliance with the standards listed in Section 1.3 as suitable for the listing categories described in Section 1.4.

**1.2** This report may be freely reproduced only in its entirety and without modification.

## 1.3 Standards

### 1.3.1 United States Standards

| Title | Number | Issue Date |
|---|---|---|
| Approval Standard for Fire Signaling Systems | 3010 | 2018 |
| National Fire Alarm Code | ANSI/NFPA 72 | 2013 |

## 1.4 Listing

The product will be updated in the Approval Guide, an on-line resource of FM Approvals, as follows with all changes highlighted, deletions shown with strikethroughs and additions in red text:

### 1.4.1 US Listings

Electrical Signaling Signaling Systems (Fire) Local Protective Signaling Local Protective Signaling

**SHP Pro Programmable Fire Alarm Control Part No. 10-063**

SHP Pro Programmable Fire Alarm Control P/N 10-063 with V1.00 firmware. Controller Part Number designation as follows: P/N 10-2452-1 for clean agent release mode/for clean agent and/or preaction sprinkler release mode/for industrial releasing mode i.e., inert gas, CO2, etc. P/N 10-2452-2 for preaction sprinkler release mode only. Five initiating device circuits (IDCs) are located on the controller board of the SHP. Inputs 1 and 2 may be used with the following 2-wire smoke and heat detectors: System Sensor Photoelectric Type models 2W-B, 2WT-B, 2WTA-B, 2WTR-B; P/N 63-1015 Photoelectric Detector; P/N 63-1017 Photo/Thermal Detector; P/N 67-1025 Ionization Detector; and P/N 60-1027 Heat Detector with P/N 67-1026, -1029, and 1031 bases, Hochiki SOC-24V and SOC-24VN two wire conventional photoelectric detectors with NS-4 or NS-6 series bases. In addition, the following 2-wire smoke and heat detectors may be connected: P/N 63-1024 Photoelectric Detector; P/N 67-1033 Ionization Detector; P/N 63-1025 Photo/Thermal Detector; P/Ns 60-1029, and -1030 Heat Detectors; with P/N 67-1034, -1036, -1035, -1037, and -1012 bases. Inputs 3-5 are compatible with conventional 4-wire contact closure devices. Inputs 3-5 are (Class B) Style B initiating device circuits until optional Class A input module P/N 10-2450 is connected. Three (Class B) Style Y notification appliance circuits are provided on the controller. Optional P/N 10-2448 Class A output module allows any of the 3 NACs to be wired Class A, Style Z. There are 3 SPDT Form C relay contacts on board the controller. These are rated 5A@30Vdc/250Vac. Optional CRM4 Relay Module P/N 10-2204 provides 4 SPDT dry contact relays each rated 2A @30 V dc or 0.5A @ 110 V ac. Switch assemblies: 10-1638 through 10-1652, 10-2963, 10-2965, 10-2967, 10-2969, 10-2973, 10-2975 and countdown timers 20-040, 20-046 and 10-2977, each rated 5A @30 Vdc. Optional Conventional Graphic Annunciator P/Ns 10-107 - 10-110 provide a graphic display of the protected area using LED's to indicate the location of the smoke detectors. Two 12 V dc, up to 40 AH batteries wired in series provide the required 24 hours of secondary power. [See further description under AUTOMATIC RELEASES FOR EXTINGUISHING SYSTEMS AND OTHER FIRE PROTECTION EQUIPMENT]

Electrical Signaling Signaling Systems (Fire) Local Protective Signaling Local Protective Signaling

**CyberCat 254, 1016 Fire Alarm Control Systems**

CyberCat 254 & 1016 Fire Alarm Control Systems (P/N 10-064 & 10-066). Programmable addressable systems consisting of P/N 10-2525/10-2525-exd and P/N 10-2472/10-2472-exd CyberCat Controllers with V7.XX firmware for the 254 and 1016 models, respectively, within P/N 10-2483(R/B) with optional dead front

10-2519 (R/B/G), 10-2527-R/B-L-0/3/13 or 10-2483-R/B-L-0/3/13 enclosure, and power supply with transformers P/N 02-10881 (120 Vac) or P/N 02-10882 (240 Vac). Up to 128 CyberCat 254 or 1016 controllers of any combination can communicate with one another when the Network Card p/n 10-2482 or Fiber Optic Network card p/n 10-2624 is installed. Either network card can be wired in a Class B, Style 4 or Class A, Style 6 or 7 configuration. Signaling line circuit RS485 meets (Class B) Style 3.5 when connected to the following Remote Display P/Ns: 10-2321, 10-2630, 10-2631, 10-2646. CyberCat 254 & 1016 controls may be connected in a networking configuration utilizing Style 4 signaling line circuit RS485 to the following: Cheetah controls when Multi-Interface Module 10-069 or 10-2583 is installed; Cheetah Xi, Cheetah Xi 50, CyberCat 50 or additional CyberCat 254 & 1016 controls when Ethernet Module P/N 10-074 or 10-2627 is installed. Multi-Interface Module 10-069 or 10-2583 communicates panel history to a Keltron or Epson printer. Optional P/N 10-2373 Zone Annunciator, P/N 10-2660 Twenty Zone Annunciator Module, P/N 10-2667 Twenty Zone Remote Annunciator Module, P/N 10-1XX Intelligent Graphic Annunciator Panel. Modules for use with the CyberCat include p/n 10-2204 RM4 Relay Module which provides 4 SPDT programmable relays rated 30 V dc @ 2A or 110 V ac @ 0.5A, and Relay Control Assembly Part Numbers 10-2777 [Relay Control Assembly], 10-2785 [RC12, Relay Card], 10-2770 [Relay Module (HPM4)], 10-2778 [Relay Control Card], 10-2769 [Buss Card], 10-2659 input/output control card, 10-2527-C-L-X-X-X/10-2483-C-L-X-X-X fire command center [FCC] enclosure, (C = enclosure color R=Red, B=Black, L = Lexan viewing window, 1st X = number of Dead-Front slots 19 or 23, 2nd X = overlay color R=Red B=Black, 3rd X = 1 Standard Back Box or 2 Two Relay card Back Box). The CyberCat 1016 with 10-2472 controller board provides two signaling line circuit (SLC) which meet NFPA Style 4, 6, or 7 wiring performance. A Supplemental Loop Module P/N 10-2473 adds two more SLC loops. Up to 254 addressable analog devices may be connected to each SLC for a total of 1016 devices. The CyberCat 254 with P/N 10-2525 controller board provides a single signaling line circuit (SLC) which meets NFPA Style 4, 6, or 7 wiring performance. Up to 254 addressable analog devices may be connected to the single SLC loop. The following addressable devices are compatible with the CyberCat fire alarm control: Photoelectric Smoke Sensor p/ns 63-1052 or 63-1058 ; Photo/135F Heat Combination Sensor p/ns 63-1053 or 63-1059; 135-190°F Fixed Temp and Rate of Rise Heat Sensor p/ns 60-1039 or 60-1040 (detector spacing not to exceed 30 x 30 ft); Ionization Smoke Sensor p/ns 67-033 or 67-034 for use with 6" Sensor Bases p/ns 63-1054 or 63-1060, 4" Sensor Bases p/ns 63-1055 or 63-1061, 6" Sounder Base p/n 63-1064 or 6" Relay Base p/n 63-1063; Mini Monitor Modules p/ns 55-045 or 55-050; Monitor Modules p/ns 55-041 or 55-046; Pull Station p/n 20-1063 or 20-1064; Non Coded Fire Alarm Box 20-1915; NAC Supervise Control Modules p/n 55-042 or 55-047; Relay Module p/n 55-043 or 55-048; Photo Duct Sensor Heads p/n 63-1057 or 63-1062; and Duct Detector Housing p/n 63-1056. In addition, the following SLC modules with isolator circuits are compatible with the panels; 55-055, 55-055A, 55-056, 55-056A, 55-060, 55-060A, 55-061, 55-061A. Two notification appliance circuits (Class A or B) Style Y, or Z are provided. Each NAC is rated for 2.0 Amps output. RS232 circuit located on the controller communicates with the HLI/VESDA Interface Assembly P/N 68-023 connected VESDA Laser PLUS Detector, VESDA Laser Compact Smoke Detector and/or VESDA Laser Scanner requires the use of an external 18 to 30 Vdc power supply. High Level Interface Assembly P/N 68-517 connected to VESDA Laser PLUS Detector, VESDA Laser Compact Smoke Detector, VESDA Laser Scanner, Vesda Laser Focus, Vesda Laser Industrial, VFT-15, Vesda VEP, Vesda VEP-1, Vesda VEP-2, Vesda VEU, Vesda VEA-40, Vesda VEA-60, Vesda VEA-80, Vesda VEA-100, Vesda VEA-120, requires the use of an external 18 to 30 Vdc power supply. Model 68-140 FAAST XM, Model 68-302 FAAST XT, Model 68-509 FAAST XS Aspirating Analog Addressable Smoke Detection System requires the use of an external 18 to 30 Vdc power supply. Optional modules for use with the CyberCat include p/n 10-2204 RM4 Relay Module which provides 4 SPDT programmable relays rated 30 V dc @ 2A or 110 V ac @ 0.5A. . Optional CRM4 Relay Module P/N 10-2204 provides 4 SPDT dry contact relays, Switch assemblies: 10-1638 through 10-1652, 10-2963, 10-2965, 10-2967, 10-2969, 10-2973, 10-2975 each rated 5A @30 Vdc. The power supply provides a 6 amp, 24 V dc output to the control. This can be expanded to a 12 amp, 24 V dc output when p/n 10-2474 Supplemental Power Supply is connected. 24 V dc batteries rated 18-75 AH are available to provide 24 (or 60 for auxiliary signaling) hours of emergency operation (See also CENTRAL STATION, REMOTE STATION, AUTOMATIC RELEASES FOR PREACTION AND DELUGE SPRINKLER SYSTEMS, and SMOKE CONTROL.)

Electrical Signaling Signaling Systems (Fire) Local Protective Signaling Local Protective Signaling

## Cheetah Xi Fire Alarm Control Systems (Part No. 10-068)

Cheetah Xi Fire Alarm Control Systems (P/N 10-068). Programmable addressable systems consisting of P/N 10-2542 Cheetah Xi Controller with V7.XX, within P/N 10-2541(R/G) enclosure with optional dead front 10-2519 (R/B/G), and power supply with transformers P/N 02-10881 (120 Vac) or P/N 02-10882 (240 Vac). Signaling line circuit RS485 meets (Class B) Style 3.5 when connected to the following Remote Display P/Ns: 10-2321, 10-2630, 10-2631, 10-2646. Cheetah Xi controls may be connected in a networking configuration utilizing Style 4 signaling line circuit RS485 to the following: Cheetah controls when Multi-Interface Module 10-069 or 10-2583 is installed; Cheetah Xi 50, CyberCat 254 & 1016, CyberCat 50 or additional Cheetah Xi controls when Ethernet Module P/N 10-074 or 10-2627 is installed. Multi-Interface Module 10-069 or 10-2583

communicates panel history to a Keltron or Epson printer. Optional P/N 10-2373 Zone Annunciator, P/N 10-2667 Twenty Zone Remote Annunciator Module, and P/N 10-1XX Intelligent Graphic Annunciator Panel. The Cheetah Xi with 10-2542 controller board provides two signaling line circuit (SLC) which meet NFPA Style 4, 6, or 7 wiring performance. A Supplemental Loop Module P/N 10-2473 adds two more SLC loops. Up to 254 addressable analog devices may be connected to each SLC for a total of 1016 devices. The following addressable devices are compatible with the CyberCat fire alarm control: Photoelectric Smoke Sensor p/ns 63-1052 or 63-1058 ; Photo/135F Heat Combination Sensor p/ns 63-1053 or 63-1059; 135-190°F Fixed Temp and Rate of Rise Heat Sensor p/ns 60-1039 or 60-1040 (detector spacing not to exceed 30 x 30 ft); Ionization Smoke Sensor p/ns 67-033 or 67-034 for use with 6" Sensor Bases p/ns 63-1054 or 63-1060, 4" Sensor Bases p/ns 63-1055 or 63-1061, 6" Sounder Base p/n 63-1064 or 6" Relay Base p/n 63-1063; Mini Monitor Modules p/ns 55-045 or 55-050; Monitor Modules p/ns 55-041 or 55-046; Non coded, dual action, addressable, manual pull stations with key-lock reset feature models 20-1063, 20-1064, rated 15 to 30VDC, 2mA max. semi-flush mount on standard single-gang, double-gang or 4" square electric box; NAC Supervise Control Modules p/n 55-042 or 55-047; Relay Module p/n 55-043 or 55-048; Releasing Control Module 55-043 or 55-048; Photo Duct Sensor Heads p/n 63-1057 or 63-1062; and Duct Detector Housing p/n 63-1056. Two notification appliance circuits (Class A or B) Style Y, or Z are provided. Each NAC is rated for 2.0 Amps output. RS232 circuit located on the controller communicates with the HLI/VESDA Interface Module Assembly P/N 68-023 connected to a VESDA Laser PLUS Detector, VESDA Laser Compact Smoke Detector and/or VESDA Laser Scanner. High Level Interface Assembly P/N 68-517 connected to VESDA Laser PLUS Detector, VESDA Laser Compact Smoke Detector, VESDA Laser Scanner, Vesda Laser Focus, Vesda Laser Industrial, VFT-15, Vesda VEP, Vesda VEP-1, Vesda VEP-2, Vesda VEU, Vesda VEA-40, Vesda VEA-60, Vesda VEA-80, Vesda VEA-100, Vesda VEA-120, requires the use of an external 18 to 30 Vdc power supply. Model 68-140 FAAST, Model 68-302 FAAST XT, Model 68-509 FAAST XS Aspirating Analog Addressable Smoke Detection System requires the use of an external 18 to 30 Vdc power supply. Up to 128 Cheetah Xi controllers of any combination can communicate with one another when the Network Card pn 10-2482 or Fiber Optic Network card 10-2624 is installed. Either network card can be wired in a Class B, Style 4 or Class A, Style 6 or 7 configuration. Optional modules for use with the Cheetah Xi include p/n 10-2204 RM4 Relay Module which provides 4 SPDT programmable relays rated 30 V dc @ 2A or 110 V ac @ 0.5A, and Relay Control Assembly Part Numbers 10-2777 [Relay Control Assembly], 10-2785 [RC12, Relay Card], 10-2770 [Relay Module (HPM4)], 10-2778 [Relay Control Card]. Optional CRM4 Relay Module P/N 10-2204 provides 4 SPDT dry contact relays, Switch assemblies: 10-1638 through 10-1652, 10-2963, 10-2965, 10-2967, 10-2969, 10-2973, and 10-2975 each rated 5A @30 Vdc. 10-2769 [Buss Card] 10-2780-C 3 Slot Remote Equipment Enclosure, 10-2781-C 5 Slot Remote Equipment Enclosure, (C = enclosure color R=Red, G=Grey), 10-2659 input/output control card, 10-2541-C-L-X-X-X fire command center [FCC] enclosure, (C = enclosure color R=Red, B=Grey, L = Lexan viewing window, 1st X = number of Dead-Front slots 19 or 23, 2nd X = overlay color R=Red B=Black, 3rd X = 1 Standard Back Box or 2 Two Relay card Back Box). The power supply provides a 6 amp, 24 V dc output to the control. This can be expanded to a 12 amp, 24 V dc output when p/n 10-2474 Supplemental Power Supply is connected. 24 V dc batteries rated 7-75 AH are available to provide 24 (or 60 for auxiliary signaling) hours of emergency operation (See also CENTRAL STATION, REMOTE STATION, AUTOMATIC RELEASES FOR EXTINGUISHING SYSTEMS AND OTHER FIRE PROTECTION EQUIPMENT, and AUTOMATIC RELEASES FOR PREACTION AND DELUGE SPRINKLER SYSTEMS.)

Electrical Signaling Signaling Systems (Fire) Local Protective Signaling Local Protective Signaling

## Cheetah Xi 50, CyberCat 50 Fire Alarm units

Cheetah Xi 50 and CyberCat 50 Fire Alarm units are programmable addressable systems consisting of P/N 10-2622, P/N 10-2620, respectively, Controller with V7.XX revision firmware, within P/N 10-2623(R/G) and10-2621 (R/B) enclosures with optional dead front 10-2628 (R/B/G), and power supply with transformers P/N 02-10881 (120 Vac) or P/N 02-10882 (240 V ac). Signaling line circuit RS485 meets (Class B) Style 3.5 when connected to Remote Display P/Ns 10-2321, 10-2630, 10-2631, 10-2646. Cheetah Xi controls may be connected in a networking configuration utilizing Style 4 signaling line circuit RS485 to the following: Cheetah controls when Multi-Interface Module 10-069 or 10-2583 is installed; Cheetah Xi 50, CyberCat 254 & 1016, CyberCat 50 or additional Cheetah Xi controls when Ethernet Module P/N 10-074 or 10-2627 is installed. Multi-Interface Module 10-069 or 10-2583 communicates panel history to a Keltron or Epson printer. Optional P/N 10-2373 Zone Annunciator, P/N 10-2667 Twenty Zone Remote Annunciator Module, P/N 10-1XX Intelligent Graphic Annunciator Panel. Modules for use with the Cheetah Xi 50 and CyberCat 50 include p/n 10-2204 RM4 Relay Module which provides 4 SPDT programmable relays rated 30 V dc @ 2A or 110 V ac @ 0.5A, and Relay Control Assembly Part Numbers 10-2777 [Relay Control Assembly], 10-2785 [RC12, Relay Card, 10-2770, 10-2778 [Relay Control Card], 10-2769 [Buss Card], 10-2780-C 3 Slot Remote Equipment Enclosure, 10-2781-C 5 Slot Remote Equipment Enclosure, (C = enclosure color R=Red, G=Grey) for Cheetah Xi and (C = enclosure color R=Red, B=Black) For Cybercat, 10-2659 input/output control card 10-2541-C-L-

X-X-X fire command center [FCC] enclosure, (C = enclosure color R=Red, B=Grey, L = Lexan viewing window, 1st X = number of Dead-Front slots 19 or 23, 2nd X = overlay color R=Red B=Black, 3rd X = 1 Standard Back Box or 2 Two Relay card Back Box). The Cheetah Xi 50 and Cyber Cat 50 with 10-2622 and P/N 10-2620, respectively controller board provide one signaling line circuits (SLC) which meet NFPA Style 4, 6, or 7 wiring. Up to 50 addressable analog devices may be connected to the SLC. The following addressable devices are compatible with the Cheetah Xi 50 and CyberCat 50 fire alarm controls: Photoelectric Smoke Sensor p/ns 63-1052 or 63-1058 ; Photo/135F Heat Combination Sensor p/ns 63-1053 or 63-1059; 135-190°F Fixed Temp and Rate of Rise Heat Sensor p/ns 60-1039 or 60-1040 (detector spacing not to exceed 30 x 30 ft); Ionization Smoke Sensor p/ns 67-033 or 67-034 for use with 6" Sensor Bases p/ns 63-1054 or 63-1060, 4" Sensor Bases p/ns 63-1055 or 63-1061, 6" Sounder Base p/n 63-1064 or 6" Relay Base p/n 63-1063; Mini Monitor Modules p/ns 55-045 or 55-050; Monitor Modules p/ns 55-041 or 55-046; Pull Station p/n 20-1063 or 20-1064; NAC Supervise Control Modules p/n 55-042 or 55-047; Relay Module p/n 55-043 or 55-048; Releasing Control Module 55-043 or 55-048; Optional CRM4 Relay Module P/N 10-2204 provides 4 SPDT dry contact relays, Switch assemblies: 110-1638 through 10-1652, 10-2963, 10-2965, 10-2967, 10-2969, 10-2973, and 10-2975 each rated 5A @30 Vdc. Photo Duct Sensor Heads p/n 63-1057 or 63-1062; and Duct Detector Housing p/n 63-1056. In addition, the following SLC modules with isolator circuits are compatible with the panels; 55-055, 55-055A, 55-056, 55-056A, 55-060, 55-060A, 55-061, 55-061A . 2 notification appliance circuits (Class A or B) Style Y, or Z are provided. Each NAC is rated for 1.75 Amps output. RS232 circuit located on the controller communicates with the HLI/VESDA Interface Assembly P/N 68-023 connected VESDA Laser PLUS Detector, VESDA Laser Compact Smoke Detector and/or VESDA Laser Scanner requires the use of an external 18 to 30 Vdc power supply. High Level Interface Assembly P/N 68-517 connected to VESDA Laser PLUS Detector, VESDA Laser Compact Smoke Detector, VESDA Laser Scanner, Vesda Laser Focus, Vesda Laser Industrial, VFT-15, Vesda VEP, Vesda VEP-1, Vesda VEP-2, Vesda VEU, Vesda VEA-40, Vesda VEA-60, Vesda VEA-80, Vesda VEA-100, Vesda VEA-120, requires the use of an external 18 to 30 Vdc power supply. Model 68-140 FAAST XM, Model 68-302 FAAST XT, Model 68-509 FAAST XS Aspirating Analog Addressable Smoke Detection System requires the use of an external 18 to 30 Vdc power supply. The power supply provides a 5.25 amp, 24 V dc output. 24 V dc batteries rated 7-75 AH are available to provide 24 (or 60 for auxiliary signaling) hours of emergency operation (See also CENTRAL STATION, REMOTE STATION, and AUTOMATIC RELEASES FOR PREACTION AND DELUGE SPRINKLER SYSTEMS.)

## 2 DESCRIPTION

The Switch Assemblies 10-2963, 10-2965, 10-2967, 10-2969, 10-2973, 10-2975 and 10-2977 Countdown Timer for FM Approved SHP Pro, CyberCat 50, CyberCat 254, CyberCat 1016 and Cheetah Xi, Cheetah Xi 50. The switches are from the same manufacturer and the ratings are unchanged. The NRTL certified switches physical construction differs from the original switches. The new switches are 20mm and the old switches are 30mm.
Below is a cross reference of new switch part numbers with old switch part numbers.

| NEW | | OLD | |
|---|---|---|---|
| 10-2963 | manual release switch assembly | 10-1638 | Switch Assembly, Manual R |
| 10-2965 | abort switch assembly | 10-1639 | Switch Assembly, Abort, DM |
| 10-2967 | main/reserve switch assembly | 10-1640 | Switch Assembly, Main Reserve |
| 10-2969 | system input [return] switch assembly | 10-1641 | Switch Assembly, Remote Reset |
| 10-2973 | system input [retain] switch assembly | 10-1642 | Switch Assembly, Abort, KY |
| 10-2975 | manual release/abort switch assembly | 10-1643 | Switch Assembly, MR/Abort |
| 10-2977 | countdown timer with manual release/abort switch assembly | 20-040-XX | Assembly, Switch, A/B Timer |
| 10-2977 | countdown timer with manual release/abort switch assembly | 20-046-XX | Assembly, Switch, MR/AB/Timer |

## 3 EXAMINATIONS AND TESTS

Samples were submitted for examination and testing. The samples were considered to be representative of the product line and were examined, tested, and compared to the manufacturer's drawings. All data is on file at FM Approvals along with other documents and correspondence applicable to this program.

All testing and analysis considered appropriate was conducted and verified to be in compliance with the Standards defined in Section 1.3.

## 4 MARKING

**4.1** Product intended for use in Canada shall be provided with caution and warning labels in both English and French.

See attached CDL for marking drawing(s).

## 5 REMARKS

**5.1** Extreme care should be taken with the installation of this equipment. The latest edition of the manufacturer's instruction manual must be followed completely, and any problems should be resolved by consultation with the factory or the authorized representative.

**5.2** All installation wiring shall be in accordance with the appropriate national electrical code.

**5.3** An Approval examination of equipment such as this can only evaluate typical configurations. Although those components identified in this report have been tested, it is beyond the scope of such an examination to test all possible configurations. It is therefore necessary, that those responsible for the setup and acceptance of specific installations take special care to verify that the equipment, including programmable functions, is configured to operate properly for the required performance of that installation.

**5.4** Tampering and replacement with non-factory components may adversely affect the safe use of the system.

**5.5** The products(s) discussed in this report were certified by FM Approvals under a Type 5 Certification System as identified in ISO/IEC 17067.

## 6 SURVEILLANCE AUDIT

The design and manufacturing facilities at the following location(s) shall be visited on a routine basis. The facility processes and quality control procedures in place have been determined to be satisfactory to manufacture product identical to that tested and Approved. An FM Approved Products/Specification-Tested Revision Request Form shall be submitted to FM Approvals for requesting to manufacture product at any additional or alternate manufacturing facilities which are not listed below.

**Design**
Fike Corp
704 SW 10th Street
PO Box 610
Blue Springs MO 64013
United States

**Manufacturing**
Fike Corp
704 SW 10th Street
PO Box 610
Blue Springs MO 64013
United States

## 7 MANUFACTURER'S RESPONSIBILITIES

**7.1** Documentation that is applicable to this approval is on file at FM Approvals and listed in the Documentation File, Section 8, of this report. No changes of any nature shall be made unless notice of the proposed change has been given and written authorization obtained from FM Approvals. The FM Approved Products/Specification-Tested Revision Request Form shall be forwarded to FM Approvals as notice of proposed changes.

**7.2** The Manufacturer is responsible for control of the product marking and installation / operation / maintenance instructions for the System.

**7.3** The manufacturer shall provide installation / operation / maintenance instructions with each system.

**7.4** The system with circuits ≥30Vac shall be dielectric tested on 100% of production. The insulation between accessible conductive parts and the power supply input connections shall withstand for one minute, with no insulation breakdown, the application of 1000 Vac [1400 V dc] with respect to the protective ground. Alternatively, a test potential of 1200 Vac [1700 V dc] may be applied for at least one second. WARNING: The dielectric test required may present a hazard of injury to personnel and/or property and should only be performed under controlled conditions, and by persons knowledgeable of the potential hazards of such testing to minimize the likelihood of shock and/or fire.

**7.5** In accordance with the Master Agreement, the manufacturer shall make full and immediate disclosure to FM Approvals of all information concerning any defect in, or potential hazard of, the product or service manufactured or provided by the Customer which is Approved by, or being examined by, FM Approvals. The manufacturer shall make all necessary arrangements for the investigation of complaints / anomalies applicable to this approval and shall keep records of all complaints / anomalies including actions taken.

## 8 DOCUMENTATION

See attached blueprint report.

## 9 CONCLUSION

The apparatus described in section 1.4.1 meets FM Approvals requirements. Since a duly signed Master Agreement is on file for this manufacturer, US Approval is effective the date of this report.

**PROJECT DATA RECORD:** PR450735

**ATTACHMENTS:**

Blueprint Report

# Blueprint Report

## Fike Corp (1000001396)

**Class No 3010**

***Original Project I.D. 0M4A5AY***

| Drawing No. | Revision Level | Drawing Title | Last Report | Electronic Drawing |
|---|---|---|---|---|
| 02-14294 | NC | Label, Module Instruction, Keyed Abort Switch Assembly | 3051731 | Yes (pdf) |
| 02-14295 | NC | Label, Module Instruction, Manual Release Switch Assembly | 3051731 | Yes (pdf) |
| 02-14296 | NC | Label, Module Instruction, Main-Reserve Switch Assembly | 3051731 | Yes (pdf) |
| 02-14297 | NC | Label, Module Instruction, Abort Switch Assembly | 3051731 | Yes (pdf) |
| 02-14298 | NC | Label, Module Instruction, Remote Reset Switch Assembly | 3051731 | Yes (pdf) |
| 02-14299 | NC | Label, Module Instruction, Manual Release/System Abort Switch Assembly | 3051731 | Yes (pdf) |
| 02-14300 | NC | Label, Module Instruction, Manual Release/Main-Reserve Switch Assembly | 3051731 | Yes (pdf) |
| 02-14301 | NC | Label, Module Instruction, Manual Release/Remote Reset Switch Assembly | 3051731 | Yes (pdf) |
| 02-14302 | NC | Label, Module Instruction, System Abort/Main-Reserve Switch Assembly | 3051731 | Yes (pdf) |
| 02-14303 | NC | Label, Module Instruction, System Abort/Remote Reset Switch Assembly | 3051731 | Yes (pdf) |
| 02-14304 | NC | Label, Module Instruction, Main-Reserve/Remote Reset Switch Assembly | 3051731 | Yes (pdf) |
| 02-14305 | NC | Label, Module Instruction, Manual Release/System Abort/Main-Reserve Swit | 3051731 | Yes (pdf) |
| 02-14306 | NC | Label, Module Instruction, Manual Release/System Abort/Remote Reset Swit | 3051731 | Yes (pdf) |
| 02-14307 | NC | Label, Module Instruction, Manual Release/Main-Reserve/Remote Reset Swit | 3051731 | Yes (pdf) |
| 02-14308 | NC | Label, Module Instruction, System Abort/Main-Reserve/Remote Reset Switch | 3051731 | Yes (pdf) |
| 06-128 | 3 | 06-168 Countdown Timers Installation Instructions | 3051731 | Yes (pdf) |
| 06-699 | 0 | 06-699 Manual Release Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-700 | 0 | 06-700 Abort Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-701 | 0 | 06-701 Main-Reserve Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-702 | 0 | 06-702 Remote Reset Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-703 | 0 | 06-703 Keyed Abort Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-704 | 0 | 06-704 Manual Release/Abort Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-705 | 0 | 06-705 Manual Release/Main-Reseve Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-706 | 0 | 06-706 Manual Release/Remote Reset Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-707 | 0 | 06-707 Abort/Main-Reserve Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-708 | 0 | 06-708 Abort/Remote Reset Switch Installation Instructions.pdf | 3051731 | Yes (pdf) |
| 06-709 | 0 | 06-709 Main-Reserve/Remote Reset Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-710 | 0 | 06-710 Manual Release/Abort/Main-Reserve Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-711 | 0 | 06-711 Manual Release/Abort/Remote Reset Switch Installation Instructions | 3051731 | Yes (pdf) |
| 06-712 | 0 | 06-712 Manual Release/Main-Reserve/Remote Reset Switch Installation Instr | 3051731 | Yes (pdf) |
| 06-713 | 0 | 06-713 Abort/Main-Reserve/Remote Reset Installation Instructions | 3051731 | Yes (pdf) |
| 06-897 | 0 | manual release switch installation instructions | 450735 | Yes (pdf) |
| 06-898 | 0 | abort switch installation instructions | 450735 | Yes (pdf) |
| 06-899 | 0 | manual reserve switch installation instructions | 450735 | Yes (pdf) |
| 06-901 | 0 | keyed input switch installation instructions | 450735 | Yes (pdf) |
| 06-902 | 0 | manual release/abort switch installation instructions | 450735 | Yes (pdf) |
| 06-903 | 0 | countdown timer with manual release/abort switch installation instructions | 450735 | Yes (pdf) |
| 10-1384A | C | PCB Assembly, Timer, Clock | 3051731 | Yes (pdf) |
| 10-1385A | B | PCB Assembly, Timer, Display | 3051731 | Yes (pdf) |
| 10-1389A-P | C | Assembly Untested, Countdown Timer | 3051731 | Yes (pdf) |
| 10-1389A | A | Assembly, Countdown Timer | 3051731 | Yes (pdf) |
| 10-1587-XX | B | Assembly, Front Plate/Timer, Digital Abort | 3051731 | Yes (pdf) |
| 10-1588-XX | C | Assembly, Front Plate/Timer | 3051731 | Yes (pdf) |
| 10-1638 | C | Switch Assembly, Manual Release, Top | 3051731 | Yes (pdf) |
| 10-1639 | C | Switch Assembly, Abort, DM | 3051731 | Yes (pdf) |
| 10-1640 | D | Switch Assembly, Main Reserve | RR212762 | Yes (pdf) |
| 10-1641 | B | Switch Assembly, Remote Reset | RR204045 | Yes (pdf) |
| 10-1642 | C | Switch Assembly, Abort, KY | 3051731 | Yes (pdf) |
| 10-1643 | B | Switch Assembly, MR/Abort | 3051731 | Yes (pdf) |
| 10-1644 | A | Switch Assembly, MR/Main Reserve | 3051731 | Yes (pdf) |
| 10-1645 | A | Switch Assembly, MR/RR | 3051731 | Yes (pdf) |
| 10-1646 | A | Switch Assembly, AB/MNRES | 3051731 | Yes (pdf) |
| 10-1647 | A | Switch Assembly, AB/REMRS | 3051731 | Yes (pdf) |
| 10-1648 | A | Switch Assembly, Main Reserve/RR | 3051731 | Yes (pdf) |
| 10-1649 | A | Switch Assembly, MR/AB/MR | 3051731 | Yes (pdf) |
| 10-1650 | B | Switch Assy, MR/AB/RR | 3051731 | Yes (pdf) |
| 10-1651 | A | Switch Assy, MR/MR/RR | 3051731 | Yes (pdf) |
| 10-1652 | A | Switch Assy, MN RES/RR/AB | 3051731 | Yes (pdf) |
| 10-2963 | n/c | manual release switch assembly | 450735 | Yes (pdf) |

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|---|---|---|---|---|
| 10-2965 | n/c | abort switch assembly | 450735 | Yes (pdf) |
| 10-2967 | n/c | main/reserve switch assembly | 450735 | Yes (pdf) |
| 10-2969 | n/c | system input [return] switch assembly | 450735 | Yes (pdf) |
| 10-2973 | n/c | system input [retain] switch assembly | 450735 | Yes (pdf) |
| 10-2975 | n/c | manual release/abort switch assembly | 450735 | Yes (pdf) |
| 10-2977 | n/c | countdown timer with manual release/abort switch assembly | 450735 | Yes (pdf) |
| 10-2978 | n/c | countdown timer with front plate assembly | 450735 | Yes (pdf) |
| 20-040-XX | C | Assembly, Switch, A/B Timer | 3051731 | Yes (pdf) |
| 20-046-XX | E | Assembly, Switch, MR/AB/Timer | 3051731 | Yes (pdf) |