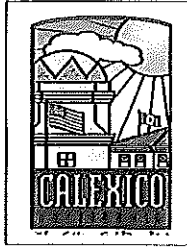AGENDA
ITEM

12

# AGENDA STAFF REPORT

**DATE:** October 21, 2020

**TO:** Mayor and City Council

**APPROVED BY:** Miguel Figueroa, City Manager

**PREPARED BY:** Lilliana Falomir, Public Works Manager – Administrative

**SUBJECT:** Authorize City Manager to Sign Agreement for Professional Services between the City of Calexico and Sygnal Systems for Installation of Fire Alarm System at City Hall and Camarena Memorial Library.

=================================================================

## Recommendation:

Authorize City Manager to Sign Agreement for Professional Services between the City of Calexico and Sygnal Systems for Installation of Fire Alarm System at City Hall and Camarena Memorial Library.

## Background:

On May 13, 2020, the City of Calexico began soliciting proposals from qualified and experienced contractors to install automated fire alarm system at City Hall located at 608 Heber Avenue and Camarena Memorial Library located at 850 Encinas Avenue.

## Discussion & Analysis:

On June 9, 2020, the Office of the City Clerk received two (2) proposals:

|   | Company | Total |
|---|---------|-------|
| 1 | Sygnal Systems | $153,500.00 |
| 2 | Climatec, LLC | $448,582.00 |

After receipt of both proposals, City Staff (Fire Chief, Library Manager and Public Works Manager) conducted an evaluation of the written proposals and rank them accordingly. The firm that scored the highest was Sygnal Systems, therefore, Public Works staff recommends that the City Council of the City of Calexico authorize the City Manager to sign Agreement for Professional Services between the City of Calexico and Sygnal Systems for installation of fire system at City Hall and Camarena Memorial Library.

AGENDA ITEM

12

**Fiscal Impact:**

Capital Improvement Program Budgeted Item for FY 2020-2021

| | |
|---|---|
| General Government Impact Fees | $75,000.00 |
| Library Impact Fee | $78,500.00 |
| Total | $153,500.00 |

**Coordinated With:**

Public Works Department.
Fire Department.
Library Department.

**Attachment(s):**

1. Sygnal System Proposal.
2. Sygnal System Agreement of Professional Services.
3. Climatec, LLC. Proposal.
4. Request for Proposals for Fire Alarm System Installation at City Hall and Camarena Memorial Library.
5. Addendum No. 1 - Request for Proposals for Fire Alarm System Installation at City Hall and Camarena Memorial Library.

# Sygnal Systems

**Calexico Camarena Library & City Hall Fire Alarm Replacement Project**

Approved Partner for

**SIEMENS**

**CA.GOV**
We are a California
Certified Small
Business

# Table of Contents

**Sygnal Systems**

Sygnal Systems is a California licensed C10 and C16 (#1020098) contractor that specializes in the design, installation and service of complex commercial fire alarm systems. All technicians are NICET certified and CA State Licensed Fire/Life Safety Technicians.

We are IBEW 569 signatory in San Diego and Imperial County. Sygnal Systems is committed to supplying the top skilled workforce for all of our projects while supporting local workers that are members of IBEW 569. Local Imperial County IBEW technicians will be utilized during this project.

Before Sygnal Systems was formed in 2016 owners Joseph Tancil and Eliseo Gonzalez each spent 15 years working at the highest level of the industry for Siemens Fire Products. Upon Departure from Siemens Fire, Sygnal Systems was formed and asked to become a factory partner of Siemens Fire Products which is the world leader in fire protection systems. Sygnal Systems utilizes Siemens Fire Products for all installations.

Notable recent Sygnal Systems fire alarm projects:

-San Diego Airport Facilities Complex

-Grand Towers San Diego fire alarm retrofit. (two 42 story residential towers)

-One Paseo office complex fire alarm system

-Regal Cinemas fire alarm replacement

-Mira Mesa High School Buildings addition

-Federal Aviation Headquarters (in progress)

In addition to fire alarm installations we also provide service to such customers as:

-State of California (fire alarm testing and repairs)

-County of San Diego (fire alarm testing and repairs)

-Northrop Grumman (fire alarm repairs)

-Caltrans (fire alarm system upgrades)

References:

1) Danny Vasquez
   Siemens Factory – National Territory Manager
   702-339-1649
   Danny.Vasquez@Siemens.com

2) Jason Sanford
   San Diego Airport - Lead Facilities
   619-316-5996
   Jsanford@san.gov

3) Mingo Villa
   County of San Diego – Lead Facilities
   619-486-2315
   Mingo.Villa@sdcounty.ca.gov

4) Liz Sino
   Eisenhower Medical Center – Director of Construction
   760-578-2356
   Mingo.Villa@sdcounty.ca.gov

5) Paul Mcvey
   Fire-Watch Inc - President
   619-572-2468
   pmv@firewatchfireequip.com

**Concept of Design**

**Camarena Library Fire Alarm –** This building is a non-sprinklered A occupancy. This building has gas burning HVAC supply. The fire alarm will have full area smoke detection coverage and combination smoke/carbon monoxide detection as needed for the HVAC roof top units. Intelligent relays will be provided to shut down the movement of air in case of a fire. Pull station will be provided at all exists and audible/visible devices provided in accordance with NFPA (throughout). The entire system will be in conduit per addendum 1. Conduit is not a code requirement above 7 feet and in the ceilings. Free-air plenum rated cable would be acceptable. If conduit is only desired in exposed locations (i.e. down walls, mechanical and electrical spaces), a price deduction will be given.

**Calexico City Hall –** This building is a fully sprinklered B occupancy. This building also has gas burning HVAC supply. The fire alarm will have spot smoke detection coverage as required by state and local code. Combination smoke/carbon monoxide detection as needed for the HVAC roof top units. Duct detectors with intelligent relays will be provided to shut down the movement of air in case of a fire. Pull station will be provided at the FACP and audible/visible devices provided in accordance with NFPA (throughout). Monitor modules will be provided for fire sprinkler systems waterflow devices, isolations valves and backflow. Beam detectors to be provided in the council chambers and main lobby. The entire system will be in conduit per addendum 1. Conduit is not a code requirement above 7 feet and in the ceilings. Free-air plenum rated cable would be acceptable. If conduit is only desired in exposed locations (i.e. down walls, mechanical and electrical spaces), a price deduction will be given.

| ID | Task Name | Duration | Start | Finish |
|----|-----------|----------|-------|--------|
| 1 | **Calexico Fire Alarm Replacement** | **60 days** | **Mon 7/6/20** | **Fri 9/25/20** |
| 2 | **Camarena Library Fire Alarm** | **58 days** | **Wed 7/1/20** | **Fri 9/18/20** |
| 3 | Project Award | 1 day | Wed 7/1/20 | Wed 7/1/20 |
| 4 | Fire Alarm Design/Site Invesitgation | 15 days | Mon 7/13/20 | Fri 7/31/20 |
| 5 | City Approval/Permit | 10 days | Mon 8/3/20 | Fri 8/14/20 |
| 6 | Mobilization/Procurement | 5 days | Mon 8/17/20 | Fri 8/21/20 |
| 7 | Installation | 15 days | Mon 8/24/20 | Fri 9/11/20 |
| 8 | System Check | 2 days | Mon 9/14/20 | Tue 9/15/20 |
| 9 | System Testing-Pre/Final | 3 days | Wed 9/16/20 | Fri 9/18/20 |
| 10 | **Calexico Town Hall Fire Alarm** | **55 days** | **Mon 7/6/20** | **Fri 9/18/20** |
| 11 | Project Award | 1 day | Wed 7/1/20 | Wed 7/1/20 |
| 12 | Fire Alarm Design/Site Invesitgation | 15 days | Mon 7/13/20 | Fri 7/31/20 |
| 13 | City Approval/Permit | 10 days | Mon 8/3/20 | Fri 8/14/20 |
| 14 | Mobilization/Procurement | 5 days | Mon 8/17/20 | Fri 8/21/20 |
| 15 | Installation | 15 days | Mon 9/21/20 | Fri 10/9/20 |
| 16 | System Check | 2 days | Mon 10/12/20 | Tue 10/13/20 |
| 17 | System Testing-Pre/Final | 3 days | Wed 10/14/20 | Fri 10/16/20 |

Timeline: July 2020 | August 2020 | September 2020 | October 2020

Project: Calexico Schedule
Date: Thu 6/4/20

Legend:
Task | Inactive Task | Manual Summary Rollup | External Milestone
Split | Inactive Milestone | Manual Summary | Deadline
Milestone | Inactive Summary | Start-only | Progress
Summary | Manual Task | Finish-only | Manual Progress
Project Summary | Duration-only | External Tasks |

## Sygnal Systems

----------------------FIRE ALARM // DESIGN // INSTALLATION //SERVICE----------------------

**Calexico - FA Systems Proposal:**

**Presented to: City of Calexico**

6/9/2020

**Fire Alarm Design Build:**

- ➢ Provide Design/Build FA system per RFP and Addendum 1 and as follows:
- ➢ Design new fire alarm fire Camarena Library & Calexico City Hall per all applicable state and local requirements. Submittal to local jurisdiction (City of Calexico).  Pay permit fees.
- ➢ Provide full installation of approved FA systems in Conduit
- ➢ Site coordination for SOW
- ➢ Conduct pre-test and final test with AHJ
- ➢ 2-year warranty on workmanship and new fire alarm equipment
- ➢ Bill of Material on Page 3

----------------------------------------------------------------------------------------------------------------------

**Inclusions:**

- ➢ Supply All labor, wire, conduit, material, product and industry expertise necessary to provide complete product per SOW
- ➢ Site Management and field technician resources
- ➢ Pre-test scope of work
- ➢ Final test with AHJ
- ➢ Supply as-built drawings of equipment mounted

**Exclusions, Assumptions and Clarifications:**

➢ Asbestos abatement
➢ Fire watch

*Fire Alarm Proposal Price:*

*Camarena Library: $78,500.00*

*Town Hall: $75,000.00*

*Total: $153,500.00*

*Includes Use Tax, Labor and Material*

Approved Partner for
**SIEMENS**

We are a California
Certified Small
Business

Respectfully Submitted:

*Joe Tancil, SET*

*Sygnal Systems*

*President*

*619-905-9145*

*joe@sygnalsystems.com*

## Bill of Material (Library):

- 8 Pull Stations

- 60 Smoke/CO Detectors

- 4 Heat Detectors

- 3 Duct Detectors

- 4 Intelligent Modules

- 35 Notification Devices

- 1 FACP

- 1 NAC Power Supply

- Digital Alarm communicator


## Bill of Material (Town Hall):

- 1 Pull Stations

- 20 Smoke/CO Detectors

- 4 Heat Detectors

- 11 Duct Detectors

- 42 Notification Devices

- 10 Intelligent modules

- 2 Beam Detectors

- 1 FACP

- 1 NAC Power Supply

- Digital Alarm communicator

# CONTRACTORS STATE LICENSE BOARD

Pursuant to Chapter 9 of Division 3 of the Business and Professions Code
and the Rules and Regulations of the Contractors State License Board,
the Registrar of Contractors does hereby issue this license to:

## SYGNAL SYSTEMS

## Reassigned License Number 1020098

to engage in the business or act in the capacity of a contractor in the following classifications:

C10 - ELECTRICAL
C16 - FIRE PROTECTION CONTRACTOR

Witness my hand and seal this day,

January 9, 2019

## Issued October 31, 2016
Reissued January 8, 2019

Marlo Richardson, Board Chair

This license is the property of the Registrar of Contractors,
is not transferable, and shall be returned to the Registrar
upon demand when suspended, revoked, or invalidated
for any reason. It becomes void if not renewed.

David R. Fogt, Registrar of Contractors

13L-24 (REV. 10/17)

OSP 17 143868

AUDIT NO: 665858

# NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES®

*Providing Certification Programs Since 1961*

**BE IT KNOWN THAT**

## Joseph J Tancil

**IS HEREBY AWARDED CERTIFICATION AT**

LEVEL IV

IN FIRE PROTECTION ENGINEERING TECHNOLOGY
FIRE ALARM SYSTEMS

**BASED UPON SUCCESSFUL DEMONSTRATION OF REQUISITE KNOWLEDGE, EXPERIENCE AND WORK PERFORMANCE AS SET FORTH BY THIS INSTITUTE.**

Certification Valid through December 1, 2021

CERTIFICATION NUMBER 110132

CHAIRMAN OF THE NICET BOARD OF GOVERNORS

A DIVISION OF THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

# CITY OF CALEXICO

**Request for Proposals For**
**Fire Alarm System Installation at City Hall and Camarena Memorial Library**
**Addendum No. 1**
**June 3, 2020**

This Addendum forms a part of the Contract Documents for the above identified projects and modifies the original request for proposals (RFP) as noted below. Portions of the contract not specifically mentioned in this Addendum, remain in force. All trades affected shall be fully advised of these changes, deletions, and additions.

## CONTRACTOR AND BUSINESS LICENSE REQUIREMENT

Please replace the following sentence with:

~~Contractor must be duly-licensed as an C-16 at the time of the award of the bid and at the time of the execution of the contract.~~

*Contractor must be duly licensed as an C-10 at the time of the award of the bid and at the time of the execution of the contract.*

## RESPONSES TO QUESTIONS

1. Will successful bidder be responsible for painting and patching if necessary? For instance, the old FACPs are mounted in the wall of both buildings

   **Yes, successful bidder will be responsible for painting and patching if necessary at both buildings.**

2. Some of the old device locations will require blank plates to cover in-wall or in-ceiling locations that will no longer be utilized. Is the use of white or similar color cover plates acceptable to be used?

   Yes, white or similar color cover plates will be acceptable.

3. Will successful bidder be responsible for demolition of existing fire alarm system?

   Yes, successful bidder will be responsible for demolition of existing fire alarm system.

*Viva Calexico!*

4. Can existing wiring, and device locations be utilized if proved adequate?

   Yes, existing wiring, and device locations can be utilized if they are adequate and up to code.

5. Bid calls for a C-16 contractor to bid this work. As C-16 contractors do not install fire alarm systems, will this be changed to a C-10 contractor?

   Contractor must be duly licensed as an C-10 at the time of the award of the bid and at the time of the execution of the contract.

Library:

6. Will there be an asbestos abatement report provided for this site? We suspect there may be asbestos in the ceiling tiles in the back work areas of the library.

   An asbestos abatement report will be provided for this site.

7. If asbestos is found will the City mitigate it and remove prior to project starting?

   Yes, if asbestos is found the City will mitigate it and remove prior to project starting.

8. Will the City be responsible for patching and painting for the project?

   Successful bidder will be responsible for patching and painting if necessary.

9. Will the City be responsible for tile replacement for the project?

   The City will be responsible for tile replacement for said project.

10. Will work be done during normal business hours or after hours?

    The work will be done after hours.

11. Will the site be occupied during construction?

    The site will be occupied during normal business hours.

12. The building isn't sprinklered so this means it will require full area smoke detector coverage and full ADA upgrade for occupant notification. Does the City want only wire mold to be used or is conduit wanted for the installation of these devices?

    The City wants conduit to be used.

City Hall

13. Will the City be responsible for patching and painting for the project?

    Successful bidder will be responsible for patching and painting if necessary.

14. Will the City be responsible for tile replacement for the project?

The City will be responsible for tile replacement for said project.

15. Will work be done during normal business hours or after hours?

The work will be done after hours.

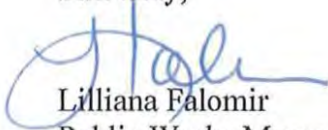16. Will the site be occupied during construction?

The site will be occupied during normal business hours.

17. There are exhaust fans in the garage to remove carbon monoxide. Where is the existing carbon monoxide head end located?

Unable to located existing carbon monoxide head ends at this time.

Please acknowledge receipt of this Addendum by signing and include a copy of the Addendum in your proposal package.

Sincerely,

Lilliana Falomir
Public Works Manager – Administrative

## ACCEPTANCE OF ADDENDUM

Receipt of the attached ADDENDUM No. 1, is hereby acknowledged by:

_____
Company Name

This the  4th  day of  June , 2020

By: _____

Signature: _Joseph Tancil_  Title:  President

# Cerberus® PRO Modular Enclosures and Equipment

Models: BCM | CAB1 | CAB-BATT/-R | CAB-MP | CAB2-BB | CAB2-BD | CAB2-XBD | CAB2-XRD | CAB3-BB | CAB3-BD | CAB3-XBD | CAB3-XRD | ID-MP | ID-SP | OD-BP | OD-GP | OD-LP | REMBOX2 | REMBOX4 | XLS-MLE6-ADPT | XLS-MME3-ADPT | XLS-MSE2-ADPT | XLS-MSE3-ADPT –and– XLS-RCC13F-ADPT

## Architect & Engineer Specifications

☐ One (1) | two (2) | three (3) row enclosure types

☐ Blank plates (ordered separately) for inner and outer doors

☐ Clear lens and grill plates (sold separately) for use with outer door

☐ UL 864 Listed, ULC Listed;

## Product Overview

The enclosures used with Cerberus PRO Modular systems (Models CAB1, CAB2, and CAB3), along with their accessories, provide a complete set of hardware for mounting all main system and remote transponder cards and modules.

The hardware allows each Modular system to be configured for a wide variety of applications. Included in the enclosure series are backbox and door sets; removable mounting plates and clear lenses; louvered ventilation grill plates, and blank plates for use with the enclosure doors.

All enclosures come with ground straps for the inner and outer doors; shield termination lugs; grounding lugs, and tie wrap lances for securing wire.

All enclosures can also mount system backup batteries up to 31AH in capacity.



Model REMBOX2



Model REMBOX4



Model CAB1
**One-row system enclosure**



Model CAB2
**[with mounted optional inner door]**



Model CAB3
**[with mounted optional inner door]**

## Single-Row Enclosure

Model CAB1, the smallest of the Cerberus PRO Modular system enclosures, can house a single Model CAB-MP cabinet mounting plate for mounting card cages, power supplies and bulk amplifiers. Model CAB1 also has four (4) mounting slots on the inner door for mounting an Operator Interface (OI) and Model ID-MP switch module brackets.

Each Model CAB1 comes complete with a **black** back box, with **black** inner and outer doors, a single lock-and-key set on the outer door, and a single OD-LP outer door lens plate (installed). A red version (Model CAB1R) is also available.

Approximate size is 27" (68.6cm.) high; 26" (66cm.) wide, and 8" (20.3cm.) deep.

## Two-Row Enclosure

Model CAB2 is the mid-sized Cerberus PRO Modular enclosure capable of housing a maximum two (2) Model CAB-MP cabinet mounting plates.

The inner door has two (2) rows of four (4) mounting slots. The outer door has space for mounting two (2) outer door plates (Models OD-LP, OD-BP or OD-GP). The outer door can be configured to open from either side.

Model CAB2 consists of the Model CAB2-BB back box; the Model CAB2-BD **black** inner and outer door package, and one (1) Model OD-LP lens plate. The outer door has a single lock and key set installed. Red doors are available in Model CAB2-RD. Additional door mounting plates must be ordered separately. Approximate size is 45" (114.3cm.) high, 26" (66cm.) wide, and 8" (20.3cm.) deep.

## Three-Row Enclosure

Model CAB3, the largest single Cerberus PRO Modular enclosure available, can house a maximum three (3) Model CAB-MP cabinet mounting plates in the enclosure, and three (3) rows of inner door mounting slots. The outer door can be configured to open from either side. Model CAB3 consists of the Model CAB3-BB back box; the Model CAB3-BD **black** inner and outer door package, and one (1) Model OD-LP lens plate.

The outer door has two (2) locks and key sets installed. Red doors are available via Model CAB3-RD.

Additional door mounting plates must be ordered separately. Approximate size is 63" (160cm.) high, 26" (66cm.) wide, and 8" (20.3cm.) deep.

## Enclosure Trim Kits

Trim kits are available for all system enclosures for semi-flush mounting applications. Model CAB1-TK (for **black** enclosures) and Model CAB1R-TK (for red enclosures) fit Models CAB1 and CAB1R enclosures. Similarly, Models CAB2-TK and CAB2R-TK fit the Model CAB2 enclosure, and Models CAB3-TK and CAB3R-TK fit the Model CAB3 enclosure.



**CAB2-XBD**   **CAB3-XBD**

## Remote Transponder Doors

The Cerberus PRO Modular system can use remote transponders for mounting additional modules such as amplifiers, without requiring an Operator Interface (OI) or any control switches.

Special doors are available for systems using Model CAB2 or Model CAB3 remote transponders. Models CAB2-XBD and CAB3-XBD omit the unused inner door and come complete with ventilation louvers built into the door.

Model CAB2-XBD comes in **black**, and fits specifically on Model CAB2-BB. Model CAB3-XBD also comes in **black**, and fits specifically on Model CAB3-BB.

Remote transponder doors are also orderable in red: Models CAB2-XRD and CAB3-XRD.
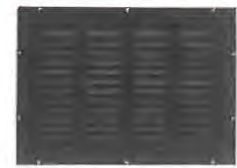


**Model OD-GP**

## Outer-Door Grill Plate

Model OD-GP also covers an entire row on the outer door of a system cabinet, but has four rows of ventilation louvers on it. Model OD-GP is mounted in front of system bulk amplifiers, card amplifiers, or other modules that generate heat. Using Model OD-GP will permit airflow across these modules to aid in heat dissipation. A single grill plate is included with each Model OG-GP.

## Remote System Enclosures

Models REMBOX2 and REMBOX4 are Cerberus PRO Modular system enclosures that are used for remotely mounting inner-door modules, such as the Cerberus PRO Modular OI, Model SCM-8, Model LCM-8 and Model FMT.

REMBOX4 hardware used with Cerberus PRO Modular systems are thinner than the regular CAB enclosures, just 5" (12.7cm.) deep overall, and are perfect for mounting in places where space is limited (such as lobbies or behind a receptionist's desk).

Due to their smaller depth, no card cages, power supplies or bulk amplifiers can be mounted in a given REMBOX. However, modules such as the Remote Network Interface Module (Model RNI); the Output-Control Module (Model OCM-16) and the Supervised Input Module (Model SIM-16) can be mounted in a REMBOX.

Due to the depth of the Live Voice Module (Model LVM) and the Model FMT firefighters' master telephone, no Model OCM-16 or Model SIM-16 modules can be used simultaneously with Model LVM or Model FMT.

Models REMBOX2 and REMBOX4 are designed for flush mounting with no trim kit required. Both enclosures also come with a clear lens plate on the cover.

**REMBOX2**
(with doors closed)

**REMBOX2**
(with doors open)

**Two-Module Remote Enclosure**
Model REMBOX2 has two (2) inner-door module spaces, and can hold on Cerberus PRO Modular OI, up to two (2) switch-module brackets, one (1) Model LVM. Combinations are permissible.

Model REMBOX2 can also mount a single Model RNI on a bracket included in the backbox. A bracket (Model REMBOX2-MP) can be used to mount up to four (4) Model OCM-16s or Model SIM-16 enclosures. Model REMBOX2-MP must be purchased separately. Approximate size of Model REMBOX2 is 14-1/2" (36.8cm.) wide, 18-1/2" (47cm.) high and 5" (12.7cm.) deep.

NOTE: A red, (2) two-module remote lobby enclosure (Model REMBOX2R) is also available.



**Model REMBOX4**

**Four-Module Remote Enclosures**
Model REMBOX4 has space for mounting four (4) inner door modules. Any combination (two-module spaces), switch module brackets, Model LVM or Model FMT (one-module space each) on a Cerberus PRO Modular OI can be used. Unused module spaces can be covered with Model ID-SP blank plates.



**Model CAB-MP**

**Cabinet Mounting Plate**
The cabinet mounting plate (Model CAB-MP) provides mounting for a single row of modules in a Cerberus PRO Modular system cabinet. Four (4)-module spaces are available on Model CAB-MP. Model CAB-MP is used to mount the Model CC-5 card cage, the Model CC-2 card cage, the Model PSC-12 power supply, the Model PSX-12 power supply extender, and the Model ZAM-80 / 180 zone amplifiers.



**Model ID-MP**

**Inner-Door Mounting Plate**
The inner door mounting plate (Model ID-MP) is mounted on the inner door of a CAB enclosure. Model ID-MP plates are used to mount Model SCM-8 switch control modules; Model LCM-8 LED control modules, or with Model FCM-6.

Four (4) mounting plates are included in each Model ID-MP. Each mounting plate has four (4) spaces for control modules, and can hold either four (4) Model SCM-8 modules {one [1] control module space each}; four (4) Model LCM-8 modules {one [1] control module space each}; or two (2) Model FCM-6 modules {two [2] module spaces each}.

Combinations are also allowed. Blank spaces in Model ID-MP can be covered using the Model BCM blank control module plate. A maximum four (4) Model ID-MP plates can be mounted in a single row on the inner door.



**Model ID-SP**

**Inner-Door Single Blank Plate**
Model ID-SP is used to cover any single module blank spaces on the inner door

not used to mount a Cerberus PRO Modular OI or one (1) Model ID-MP. Up to four (4) Model ID-SP plates can be mounted in a single row on the inner door. Two (2) blank plates are included in each Model ID-SP.



**Model XDACT-ASSY**

**Class X Assembly Plate**
The XDACT Assembly (Model XDACT-ASSY) is the blank plate used for holding the optional Digital Alarm Communication Transmitter (DACT), Model FCA2015-U1. The XDACT assembly vertically mounts on the back, left-hand side of an inner door of any type of Modular panel, adjacent to an Operator Interface (OI).



**Model BCM**

**Blank Control Module Plate**
Model BCM is used on Model ID-MP to cover any blank areas where control modules are not used. A maximum four (4) Model BCM plates can be mounted on a single Model ID-MP. Four (4), blank-module plates are included in each Model BCM.

**Outer Door Lens Plate**
Model OD-LP is a clear plastic lens plate mounted on the outer door of a system cabinet. Model OD-LP is used to allow operators to see the system interface and controls mounted on the inner door, but restricts access to unauthorized users. Model OD-LP covers an entire row on the outer door. A single lens plate is included with each Model OD-LP.

**Model OD-BP**

### Outer Door Blank Plate

The Outer Door Blank Plate (Model OD-BP) is used to cover an entire row of a Cerberus PRO Modular system cabinet. Model OD-BP is mounted when no module is used in that location. Model OD-BP is mounted on the outer door, and one (1) blank plate is included with each order.
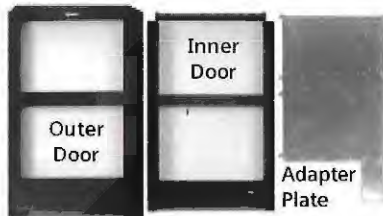


### MME-3–series Enclosure Adapters

Model XLS-MME3-ADPT, which must be used in conjunction with Model CAB-MP plates, is an adapter that allows Cerberus PRO Modular cards to be mounted in older-generation MXL Model MME-3–series or Model MBR-2 medium black enclosures.

Model XLS-MME3R-ADPT, which must be used in conjunction with Model CAB-MP plates, is an adapter that allows Cerberus PRO Modular cards to be mounted in older-generation MXL Model MME-3R medium red enclosures.
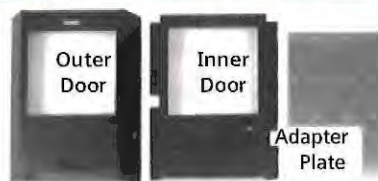


### MSE-3–series Enclosure Adapters

Model XLS-MSE3-ADPT is an adapter that allows Cerberus PRO Modular cards to be mounted in older-generation MXL-IQ Model MSE-3L or Model MSE-3M black enclosures.
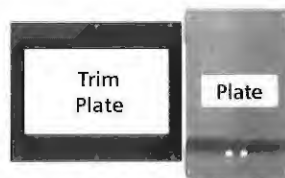
Model XLS-MSE3R-ADPT is an adapter that allows Cerberus PRO Modular cards to be mounted in older-generation MXL-IQ Model MSE-3LR or Model MSE-3MR red enclosure.



### RCC13-series Enclosure Adapters

Model XLS-RCC13F-ADPT is an adapter that allows the Cerberus PRO Modular Model SSD*I*-C series remote annunciator to be mounted in older-generation Model RCC-1F or Model RCC-3F black, flush-mount enclosure.

Model XLS-RCC13FR-ADPT is an adapter that allows the Model SSD*I*-C series to be mounted in older-generation RCC-1FR and RCC-3FR, red flush-mount enclosure.



### RCC-1–series Enclosure Adapters

Model XLS-RCC1-ADPT is an adapter that allows the Cerberus PRO Modular Model SSD*I*-C series remote annunciator to be mounted in older-generation Model RCC-1 surface-mount enclosure.



### Remote Transponders

Cerberus PRO Modular systems can use remote transponders for mounting additional modules such as amplifiers without requiring a Cerberus PRO Modular operator interface or any control switches.

Special doors are available for systems using Model CAB-2 or Model CAB-3 remote transponders. These doors (Models CAB2-XBD and CAB3-XBD) omit the unused inner door, and come complete with ventilation louvers built into the door.

Special doors are available for systems using Model CAB-2 or Model CAB-3 remote transponders. These doors (Models CAB2-XBD and CAB3-XBD) omit the unused inner door, and come complete with ventilation louvers built into the door.

### Enclosure Trim Kits

Trim kits are available for all Cerberus PRO Modular system enclosures for semi-flush mounting applications. Model CAB1-TK (for black enclosures) and the Model CAB1R-TK (for red enclosures) fit inside the Models CAB1 and CAB1R enclosures. Similarly, Models CAB2-TK and CAB2R-TK fit inside the Model CAB-2 enclosure, while Models CAB3-TK and CAB3R-TK fit the Model CAB-3 enclosure.

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| BCM | 500-033320 | Blank Control Module Plate [Four (4) per package] |
| CAB-1 | 500-633007 | Complete Single-Row Cabinet, black |
| CAB-1R | 500-633728 | Complete Single-Row Cabinet, red |
| CAB1-TK | 500-633013 | Single-Row Trim-kit Cabinet,, black |
| CAB1R-TK | 500-633729 | Single-Row Trim-kit Cabinet, red |
| CAB2-BB | 500-633009 | Two-Row Back Box, black |
| CAB2-RB | 500-634941 | Two-Row Back Box, red |
| CAB2-BD | 500-633008 | Two-Row Inner & Outer Door Set, black |
| CAB2-RD | 500-633755 | Two-Row Inner & Outer Door Set, red |
| CAB2-TK | 500-633014 | Two-Row Trim-kit Cabinet, black |
| CAB2R-TK | 500-633753 | Two-Row Trim-kit Cabinet, red |
| CAB2-XBD | 500-633768 | CAB2 Transponder Door |
| CAB2-XRD | 500-633792 | Medium-Enclosure Transponder Door [mounts to Model CAB2-RB] |
| CAB3-BB | 500-633011 | Three-Row Back Box, black |
| CAB3-RB | 500-634942 | Three-Row Back Box, red |
| CAB3-BD | 500-633010 | Three-Row Inner & Outer Door Set, black |
| CAB3-RD | 500-633757 | Three-Row Inner & Outer Door Set, red |
| CAB3-TK | 500-633015 | Three-Row Trim-Kit Cabinet, black |
| CAB3R-TK | 500-633754 | Three-Row Trim-Kit Cabinet, red |
| CAB3-XBD | 500-633769 | CAB3 Transponder Door |
| CAB3-XRD | 500-633793 | Large-Enclosure Transponder Door [mounts to Model CAB3-RB] |

## Details for Ordering – (cont.'d)

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| CAB-MP | 500-633012 | Module Mounting Plate |
| CAB-55-BRKT | S54430-B1-A1 | Bracket to hold down 55AH batteries in CAB-BATT enclosure |
| CAB-100-BRKT | S54430-B2-A1 | Bracket to hold down 100AH batteries in CAB-BATT enclosure |
| ENCL-01 | S54465-C63-A1 | SNU Enclosure (with key-lock) |
| ID-MP | 500-633027 | Inner-Door Enclosure Mounting Plate [four (4) per package] |
| ID-SP | 500-633028 | Single-Door Inner-Door Enclosure Mounting Plate [two (2) per package] |
| OD-BP | 500-633017 | Outer Door Blank Plate, black |
| OD-BP-R | 500-634919 | Outer Door Blank Plate, red |
| OD-GP | 500-633018 | Outer Grill Plate, black |
| OD-GP-R | 500-634920 | Outer Grill Plate, red |
| OD-LP | 500-633016 | Outer Door Lens Plate |
| REMBOX2 | 500-633772 | (2) Two-module remote lobby enclosure, black |
| REMBOX2R | 500-650612 | (2) Two-module remote lobby enclosure, red |
| REMBOX2-MP | 500-634211 | Mounting plate for Models OCM-16 / SIM-16 in Model REMBOX2 |
| REMBOX4 | 500-633914 | (4) Four-module remote lobby enclosure, black |
| REMBOX4R | 500-650613 | (4) Four-module remote lobby enclosure, red |
| REMBOX4-MP | 500-634212 | Mounting plate for Models OCM-16 / SIM-16 in Model REMBOX4 |

## Details for Ordering – (cont.'d)

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| XDACT-ASSY | S54430-A5-A1 | XDACT Mounting Plate (with cable) |
| XLS-MLE6-ADPT | S54430-C9-A1 | MLE-6 Enclosure Adapter, black |
| XLS-MLE6R-ADPT | S54430-C9-A2 | MLE-6R Enclosure Adapter, red |
| XLS-MME3-ADPT | S54430-C8-A1 | MME-3 and MBR-2 enclosure adapters, black |
| XLS-MME3R-ADPT | S54430-C8-A2 | MME-3 and MBR-2 encl. adapters, red |
| XLS-MSE2-ADPT | S54430-C7-A1 | MSE-2 enclosure adapter, black |
| XLS-MSE2R-ADPT | S54430-C7-A2 | MSE-2 enclosure adapter, red |
| XLS-MSE3-ADPT | S54430-C14-A1 | MXL-IQ | MSE-3L & MSE-3M enclosure adapters, black |
| XLS-MSE3R-ADPT | S54430-C14-A2 | MXL-IQ | MSE-3L & MSE-3M enclosure adapters, red |
| XLS-RCC1-ADPT | S54430-Z14-A1 | RCC-1 enclosure adapter, black |
| XLS-RCC13F-ADPT | S54430-Z13-A1 | RCC-1F | RCC-3F enclosure adapter, black |
| XLS-RCC13FR-ADPT | S54430-Z13-A2 | RCC-1F | RCC-3F enclosure adapter, red |

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**SIEMENS**

## Cerberus® PRO

Siemens Industry, Inc.
Building Technologies Division
8 Fernwood Road • Florham Park, NJ 07932
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September 2018 – Supersedes sheet dated 9/2017
(Rev. 1)

# Cerberus® PRO Modular system

## Operator Interface
## Model FCM2041-U3

## Architect & Engineer Specifications

☐ Main-operator interface with user-prompted lighted, large buttons for system control, operating sequence

☐ Large, 6-inch (15.2 cm) color display

☐ Touch-screen driven, system-control menus
  - Context-sensitive 'Help' button
  - Navigation buttons and 'More Info'
  - Additional tabs , including queues for mass notification (MNS)

☐ Go-to-beginning; go-to-end queue buttons

☐ Front-end light-emitting diodes (LEDs) for 'Alarm' | 'Supervisory' | 'Trouble' commands
  - Partial-system disable LED
  - Audible Status LEDs (ON and Silenced)

☐ Global annunciation and control capability

☐ Integrated slots for switch-control (Model SCM-8) and LED-control (Model LCM-8) modules

☐ Mounts in any of one (1) of the following enclosures:
  - Model CAB1 (smallest cabinet)
  - Model CAB2 (medium cabinet)
  - Model CAB3 (largest cabinet)
  - Model REMBOX2 (two-module remote enclosure)
  - Model REMBOX4
  - (four-module remote enclosure)

☐ 40 software-programmable 'User Macro' switches

☐ UL864 & CAN / ULC-S576 Listed

## Product Overview

The Operator Interface (OI), Model FCM2041-U3, is the central processor and user interface for each Cerberus PRO Modular system. Model FCM2041-U3 provides straightforward, front-end access for an end-user to perform system tasks, such as: acknowledge events; control addressable points (e.g. – intelligent detectors | notification appliance circuits [NACs]), and reset the system.

In terms of hardware used for Cerberus PRO Modular, Model FCM2041-U3 Operator Interfaces can be mounted in full-size CAB1 | CAB2 | CAB3 enclosures.

Additionally, remote, multi-module-mounted enclosures for Cerberus PRO Modular, Models REMBOX2 and REMBOX4, can each house one (1) Model FCM2041-U3 OI.

It is through the custom-configuration software tool, *Zeus-C*, that Model FCM2041-U3 OIs are able to provide programmed logic and panel supervision.

## Specifications

Each Cerberus PRO Modular Operator Interface contains a full liquid-crystal display (LCD) at the front end. An audible sounds from a Model FCM2041-U3 operating unit when there are unacknowledged events. The display is surrounded by keys that are used to control the displayed information and to navigate through these screens. Keys are also readily available in order for the end user to obtain help information, as well as to enter into the menu features of a Model FCM2041-U3 OI.

Additional diagnostic displays can be found at the back end of each Model FCM2041-U3 to provide efficiency to the end-user in troubleshooting the Cerberus PRO Modular fire-alarm control panel (FACP).

A 40-inch (1.02m) long 60-pin wire cable, P/N **555-133743**, is used to connect a Cerberus PRO Modular Operator Interface, Model FCM2041-U3 to the Siemens five-slot card cage, Model CC-5.
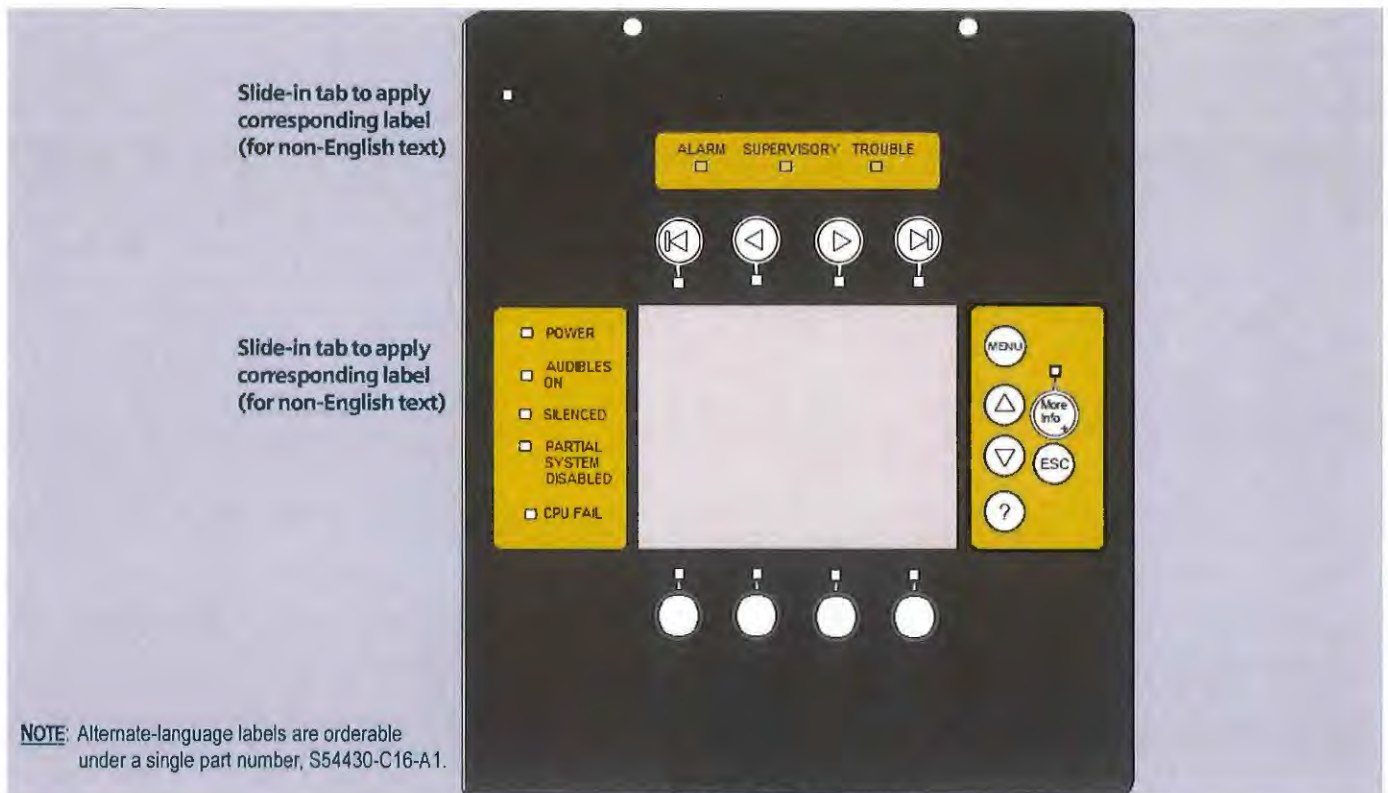
Slide-in labels are orderable under a single part number for applications that require French (Canadian) | Spanish | Portuguese-Brazilian text.

**NOTE:** Alternate-language labels are ordered separately.



**Model FCM2041-U3**
**Operator Interface Unit**
**mounted in a Model CAB1 enclosure**

Siemens
Smart Infrastructure – Building Products

**Data Sheet 8350**
usa.siemens.com/fire

Slide-in tab to apply
corresponding label
(for non-English text)

ALARM   SUPERVISORY   TROUBLE

Slide-in tab to apply
corresponding label
(for non-English text)

POWER
AUDIBLES ON
SILENCED
PARTIAL SYSTEM DISABLED
CPU FAIL

MENU
More Info
ESC
?

NOTE: Alternate-language labels are orderable
under a single part number, S54430-C16-A1.

Model FCM2041-U3
Cerberus PRO Modular Operator Interface

## Operation

In normal | standby condition, a Model FCM2041-U3 OI displays the site-specific, customized message; the time and date, and a rundown of the system status.

When an event occurs in the system, the display enters the 'Alert' mode. The event is displayed, the local audible sounds, and the tab on the display for the corresponding event queue flashes. If the system-event type is 'Alarm' | 'Trouble' | 'Supervisory', the appropriate LED blinks. If the event caused notification appliances to sound the 'Audibles On' indicator illuminates. At the bottom of the screen, an 'Acknowledge' button is subsequently displayed.

Pressing this button acknowledges the event and silences the local audible. Once all events are acknowledged, a reset button becomes available in the lower right side of the display. If notification appliances are active, two (2) additional buttons appear at the bottom of the screen.

These buttons subsequently allow the operator to silence or unsilence the notification appliances. When the notification appliances are silenced, the 'Audibles Silenced' LED illuminates.
The system can only be reset with the notification appliances silenced.

Up to five (5) events can be displayed at a time. For Canadian operation, nine (9) events are shown. When more than five (5) events are present, the up-and-down arrow keys allow the user to vertically scroll the list of events. A progress meter on the side of the list indicates the size of the list of events and the location in the list. New, 'unacknowledged' events are indicated by a flashing exclamation point (!). Once acknowledged, the exclamation point changes to a checkmark (✓).

Pressing the 'More Info' button will display a screen showing details relating to the selected event. Other buttons also appear at the bottom of this screen. There is an expanded text message available, as well as a selection to show all of the devices associated with the event that are active.

The operator can return to the previous screen by pressing the ESC button.

NOTE: Refer to installation manual: P/N – A6V11231629 for the most detailed information on the Cerberus PRO Modular Operator Interface.

## Temperature and Humidity Range

Cerberus PRO Modular Operator Interfaces are UL Listed | ULC Listed. Environmental operating conditions for each Model FCM2041-U3 operator interface is 32°F (0°C) to 120°F (49°C) with a relative humidity of no greater than 95%, non-condensing.

### Electrical Ratings

| | | |
|---|---|---|
| **INPUT POWER:** | 24V Back Plane Current | 195µA |
| | Screw Terminal 24V Current | 0 |
| | 6.2V Back Plane Current | 0 |
| | 24V Standby Current | 125µA |
| **OUTPUT POWER:** | Each HNET / XNET - and - CAN Network Pair | 8V peak-to-peak, max. |
| | | 75µA, max. (during message transmission) |

### Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| FCM2041-U3 | S54430-C18-A1 | Cerberus PRO Modular Operator Interface |

**SIEMENS**

## Cerberus® PRO

# Cerberus® PRO
# Modular system

Card Cage – 5 Slots
Model CC-5

## Architect & Engineer Specifications

☐ Common card cage for all Cerberus PRO Modular system option cards

☐ Five (5) slots to mount any option cards – with no restrictions

☐ Mounts on back box or Model CAB-MP (two-module spaces)

☐ Removable terminal blocks

☐ Numbered terminal blocks

☐ All field-wiring terminations on top (power limited)

☐ All internal-wiring terminations on bottom (non-power limited)

☐ Molded card guides for card mounting

☐ Card-position locator label on card guide

☐ All cards communicate via common 60-pin power / data bus

☐ Screw terminals wire sizes supported: 12 AWG – 24AWG

☐ DIN connectors

☐ UL864 & CAN / ULC-S576 Listed;

## Product Overview

The Model CC-5 card cage provides the physical mounting location and all wiring connection points for all fire and voice system options cards for the Cerberus PRO Modular system fire alarm control panel (FACP).

## Specifications

All cards plugged into the Model CC-5 card cage communicate with other modules of the Cerberus PRO Modular system panel – via a common, 60-pin data bus.
This 60-pin bus runs through the card cage; making all communication data buses and signals available to all cards. Connectors are provided on the left and right side of Model CC-5 to connect a 60-pin cable for communications with the Cerberus PRO Modular system operator interface, power supplies and amplifiers modules. There are no active components on Model CC-5.

Field wiring to all devices and circuits terminates at the Model CC-5 card cage.

All cards, which are designed for use with Model CC-5, route their field wiring terminations to the 'top' of Model CC-5. These connections are all power-limited.

Internal wiring connections distribute 24VDC to cards or high-level audio signals (depending on application used) connected to the 'bottom' of Model CC-5. Though, these internal-wiring connections are all non-power limited.

All wiring connections to Model CC-5 are made to removable terminal blocks. Terminal blocks are rated for use with wire-sized 12AWG to 24AWG. Each terminal block comes with a protective cover that also serves as a handle to allow easy terminal-block removal when wires are connected.

Each connector is numbered to make wiring terminations to the correct position on the terminal block simple and reduce the potential for wiring errors.

Model CC-5
Card Cage-5 Slots

## Specifications – (continued)

Model CC-5 is shipped with two (2) card guides (top and bottom) that mount to the Model CC-5 PCB. The `top' card guide contains a blank label for use by the installer to indicate the location or card-slot position. The blank label serves as a reminder to the installer to ensure the proper card goes in the correct card slot — this is important during commissioning when cards may be installed after the field-wiring terminations have been made — and when cards are removed for service.

All field-wiring terminations are typically made to the Model CC-5 terminal blocks before the card guides are mounted and the option cards are installed. Model CC-5 mounts in two (2) of the four (4) available module spaces directly on the back box or optional Model CAB-MP for installation in the CAB-1, CAB-2 or CAB-3 enclosures.

## Temperature and Humidity Range

Model CC-5 is UL 864 9th Edition listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

## Compatible Cerberus PRO Modular Cards

--- Any combination of the following (5) option cards can be installed in a Model CC-5 Card Cage ---

### FIRE SYSTEM CARDS

| MODEL | PART NUMBER | DESCRIPTION |
|---|---|---|
| DLC | 500-033090 | Device Loop Card |
| CDC-4 | 500-034200 | Conventional Detector Card |
| CRC-6 | 500-033250 | Controllable Relay Card |
| NIC-C | 500-033240 | Network Interface Card |
| ZIC-4A | 500-033050 | Zone Indicating Card, four (4) circuits |

### VOICE SYSTEM CARDS

| MODEL | PART NUMBER | DESCRIPTION |
|---|---|---|
| AIC | 500-035300 | Audio Input Card |
| DAC-NET | 500-035100 | Network Digital Audio Card |
| TZC-8B | 500-034110 | Telephone Zone Card |
| ZAC-40 | 500-035400 | 40W Zone Amplifier Card |

Refer to Installation Instruction: 315-033035

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| CC-5 | 500-633037 | 5-Slot Card Cage |

**Cerberus® PRO**

**SIEMENS**

# Cerberus® PRO Modular system

## Network Interface Card
## Model NIC-C

## Architect & Engineer Specifications

☐ HNET communications

☐ XNET communications

☐ CAN network communications

☐ Supports 'Class B' – (Style 4) or 'Class A' – (Style 7) wiring for XNET or HNET

☐ Supervises the HNET or XNET and CAN networks

☐ Diagnostic light-emitting diodes (LEDs)

☐ Isolates short circuit faults

☐ Ground-fault detection

☐ Network repeater

☐ Downloadable firmware

☐ UL864 | CAN / ULC Listed;

## Product Overview

The Network Interface Card (Model NIC-C) provides HNET or XNET network communications between enclosures. In addition to the HNET or XNET communication, Model NIC-C provides CAN network communication within an enclosure or external to the enclosure. The HNET or XNET can be wired 'Class B' – Style 4 or 'Class A' - Style 7, but the CAN network can only be wired 'Class B' - Style 4.

## Specifications

A single Model NIC-C can provide either HNET or XNET communications. The CAN interface is available regardless of the HNET or XNET usage.

When Model NIC-C is used for HNET communications, Model NIC-C provides communication between enclosures within a single system. The maximum HNET Model NIC-C cards on a single system (single node) is 50.

Model NIC-C supervises the HNET network to insure proper operation. Model NIC-C also isolates a short-circuit fault to each individual segment of the HNET network. Model NIC-C provides an electrical repeater for each HNET pair.

When Model NIC-C is used for XNET communications, communication is provided between systems. The maximum XNET Model NIC-C cards for a single-node system is one (1), totaling 59 XNET Model NIC-C cards on a peer-to-peer, networked system. The XNET Model NIC-C card must reside in the same enclosure as the Operator Interface (OI).

Model NIC-C supervises the XNET network to ensure proper operation. Model NIC-C also isolates a short-circuit fault to each individual segment of the XNET network. Model NIC-C provides an electrical repeater for each XNET pair. MXL systems may also reside on the same XNET with Cerberus PRO Modular systems.

Model NIC-C
**Network Interface Card**

Each Cerberus PRO Modular system will report events over the XNET to the Network Command Center for display. The following commands are displayed on Model NCC-G: `Trouble' | `Acknowledge' | `Alarm-Silence | `System-Reset, which are also each initiated at Model NCC. Model NCC can also be used to perform maintenance commands on an individual Cerberus PRO Modular system on the XNET communications bus.

Each Model NIC-C Card takes one (1) card slot and mounts in a Model CC-2 or Model CC-5 Card Cage inside a Model CAB-1 | Model CAB-2 | Model CAB-3 enclosure.

Model NIC-C also comprises the CAN network, which supports Model LCM-8 | SCM-8 | FCM-6 | OCM-16 | SIM-16 CAN modules. Up to 99 CAN module addresses are available per enclosure.

The Network Interface Card has diagnostic LEDs that indicate Card Fail | CAN Fail | HNET Fail | XNET Fail | Ground Fault | `Loop A' Fail, and `Loop B' Fail. Each Model NIC-C also has LEDs to indicate Power | Style and Active Networks.

## Temperature and Humidity Range

Product is UL 864 9th Edition Listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

### Electrical Ratings

| INPUT POWER | |
|---|---|
| 24V BACK PLANE CURRENT | 120mA |
| 24V CURRENT (SCREW TERMINAL) | 0 |
| 6.2V BACK PLANE CURRENT | 0 |
| 24V CURRENT (STANDBY) | 120mA |

| OUTPUT POWER | |
|---|---|
| EACH HNET / XNET AND CAN NETWORK PAIR | 8V, peak-to-peak, max |
| | 75mA, max. (during message transmission) |

### Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| NIC-C | 500-033240 | Network Interface Card |

NOTICE – The information contained in this data-sheet document is intended only as a summary, and is subject to change without notice.
The product(s) described here has/have a specific instruction sheet(s) that cover various technical, limitation and liability information.
Copies of install-type, instruction sheets – as well as the *General Product Warning and Limitations* document, which also contains important data, are provided with the product, and are available from the Manufacturer.
Data contained in the aforesaid type of documentation should be consulted with a fire-safety professional before specifying or using the product.

Any further questions or assistance concerning particular problems that might arise, relative to the proper functioning of the equipment, please contact the Manufacturer.

## Cerberus® PRO

**SIEMENS**

# Cerberus® PRO Modular system

## Device Loop Card
## Model XDLC

## Architect & Engineer Specifications

☐ Supports up to 252 addressable points

☐ Operates and maintains all devices residing on up to four (4) 'Class A', eight (8) 'Class B' addressable circuits

☐ Compatible with Siemens intelligent, addressable 'X' and 'H'-series devices:
  - Multi-criteria / Carbon Monoxide (CO) Detector with ASA*technology*™
  - Multi-criteria Detector with ASA*technology*™
  - Multi-criteria Detector
  - Thermal (Heat) Detector
  - Input / Output Interface Module

☐ Polarity insensitive (in non-isolation mode) via *SureWire*™ technology:
  - Modern technology supports comprehensive system and interface communication

☐ Quantity 16 diagnostic light-emitting diodes (LEDs) for easy circuit diagnosis

☐ Microchip controls on-board isolators

☐ Device Programmer / Tester (Model DPU) programs and verifies device's address:
  - programming capabilities include testing a duct detector, as well as other Siemens addressable devices

☐ Supports 'Class B' | 'Class A' | 'Class X' wiring

☐ Supports T-Tapping

☐ Degrade mode

☐ UL864 | CAN / ULC Listed

## Product Overview

The Siemens – Fire Safety 'Class X' Device Loop Card (Model XDLC) is the interface used for connecting Siemens addressable, intelligent 'X' as well as `H'-series devices.

Each Model XDLC plugs into one (1) slot of the Model CC-2 or Model CC-5 card cage. Programming for Model XDLC is accomplished via the Cerberus PRO Modular system custom-configuration tool, *Zeus-C*. Model XDLC takes one (1) address on the network, communicating up to a total 252 detectors and devices. Model XDLC has 16 LEDs for diagnostic purposes, and provides ground-fault detection and zone-isolation circuitry.

## Specifications

The 'Class X' Device Loop Card (Model XDLC) initializes, operates and maintains all devices residing on up to four (4) 'Class A', eight (8) 'Class B' addressable circuits. Model XDLC communicates all relevant device and event data ('Alarm', 'Trouble' and 'Supervisory' commands) to a Cerberus PRO Modular fire-alarm control panel (FACP), and supervises the device loop circuit.

Model XDLC is polarity insensitive via *SureWire* technology, which greatly reduces commissioning time normally spent tracing down crossed-field wiring. Model XDLC communicates detector data, such as sensitivity of intelligent fire detectors and logic-function information, to the Cerberus PRO Modular Operating Unit (Model FCM2041-U3), which is located within a given Cerberus PRO Modular system.

Each device loop card supports four (4) 'Class A', eight (8) 'Class B' circuits for up to a total of 252 addressable devices – as well as relay and audible bases, remote lamps and duct-detector housings in any combination.

The microprocessor in a Model XDLC controls the on-board isolation, in case there is a fault (short) in any of the circuits, thus allowing the other circuit to continue operating. For continuous protection, the on-board microprocessor continues to operate even in the event of a CPU failure.

NOTE: Refer to installation manual: **P/N – A6V101040156** to ensure Model XDLC compatibility with the Siemens FACPs intended for use in the given application.
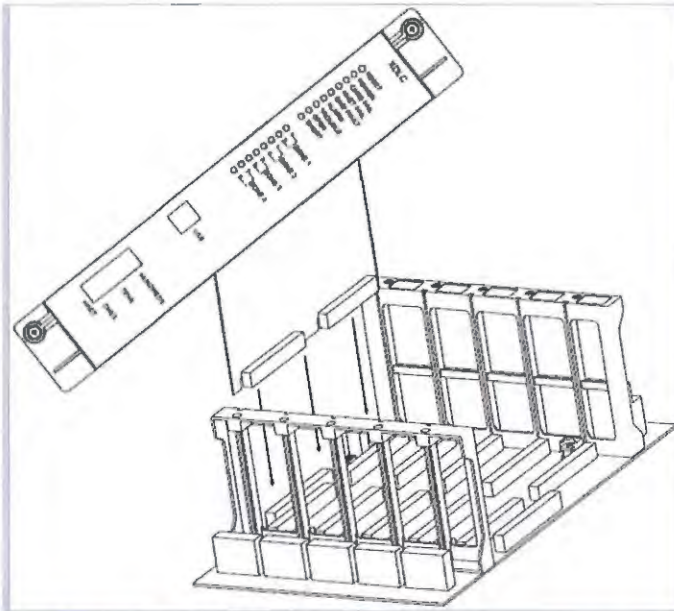


**Model XDLC**
Side View

**Model XDLC**
Front View

## Temperature and Humidity Range

'Class X' Device Loop Cards are UL Listed | ULC Listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

### Technical Data

| | |
|---|---|
| **24V CURRENT DRAW:** [Back Plane] | 0 |
| **24V CURRENT DRAW:** [Screw Terminal] | 100mA + 1.4mA per device |
| **6.2V CURRENT DRAW:** [Back Plane] | 1mA, max. |
| **24V CURRENT DRAW:** [Standby] | 100mA + 1.4mA per device |
| **DEVICE LOOP:** [@ 30 VDC Max.] | 500mA, max. (power limited) |

### Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| XDLC | S54430-B8-A1 | 'Class X' Device Loop Card |

**SIEMENS**

# SIEMENS
*Ingenuity for life*

# Cerberus® PRO Modular system
## Zone-Indicating Card
## Model ZIC-4A

## Architect & Engineer Specifications

- Operates audible or visual notification appliances
- One (1) or (2) two-channel voice operation
- Operates audio speakers (25V or 70VRMS)
- Three (3) unique signals from each circuit
- Available bell-follower application
- Four (4) `Class A' or `Class B' circuits
- 24 VDC at 3.0 Amps per circuit
- Built-in strobe synchronization
- City-tie or leased-line output
- Coded audibles available
- Fully programmable
- On-board microprocessor
- Automatic / manual control
- March time / Uniform Code 3
- Selectable degrade operation
- Built-in, ground-fault detection
- Silenceable / non-silenceable option
- Circuits power limited, per NEC 760
- NFPA 13, pre-action and deluge
- NFPA 2001, FM-200 Releasing
- Releasing service
  - FM Approved for single and double interlock, pre-action system Operation
- UL 864 9th Edition Listed & ULC Listed;

## Product Overview

The Zone-Indicating Card (Model ZIC-4A) provides four (4) fully supervised and programmable output circuits for use on Cerberus PRO Modular fire alarm control panels (FACPs).

Model ZIC-4A supplies four (4) `Class B' or `Class A'-type output circuits – power limited to 3.0 Amps maximum per circuit. Each circuit can be independently programmed for use with listed audible or visual notification appliances, listed emergency-audio speakers, municipal tie boxes, leased lines, or as releasing circuits.

Model ZIC-4A can send audio to additional speaker zones, via the Model EBA2004-A1 booster amplifier.

Model ZIC-4A plugs into one (1) slot in the Model CC-5 or Model CC-2 Card Cage, and has on-board LEDs for system status and troubleshooting. Indication of power, communication, internal operation, and ground-fault conditions are provided, as well as indication of circuit activation or Trouble conditions.

All system-status conditions are also reported to each Cerberus PRO Modular system's Operator Interface (OI). Each circuit or output may be controlled automatically with system-logic programming, via the custom-configurable programming tool, Zeus-C, or manually, using the Cerberus PRO Modular panel keypad on the OI.

Automatic control may also be time based. Each circuit or output can be manually `Armed' or `Disarmed' via the OI keypad.

When any circuit or output has been `Disarmed', the OI display will indicate the affected circuit or output, and the 'Partial `System Disable' LED will illuminate – until the circuit or output has been returned to the 'Armed' condition. Model ZIC-4A circuits can also be manually energized or de-energized when in the `Disarmed' state, via the OI.

Model ZIC-4A contains a microprocessor, which allows notification-circuit outputs to function in a degrade mode – even if the main Cerberus PRO Modular panel processor or the local-network communication link has failed. In a degrade mode, Model ZIC-4A will respond to an `Alarm' or `Trouble' from any intelligent-addressable initiating device or conventional-zone initiating device connected in the same local enclosure.

Model
ZIC-4A

Siemens
Building Technologies Division

**Data Sheet 8315**
usa.siemens.com/cerberus-pro

Standard **NAC** Zone – Each of the four (4) circuits on Model ZIC-4A can be configured for use as a standard notification appliance circuit (NAC). The NAC output can be used as a steady, strobe-synchronized, or zone-coded output. Available coding includes ANSI Temporal, March Time 120-pulse-per-minute (PPM), March Time 60 PPM, March Time 30 PPM, Canadian Two-stage 30 PPM, Canadian Two-stage 120 PPM and custom coding.

Outputs may be programmed through logic to transmit up to three (3) different signal types, depending on event priority. For instance, the same circuit can be programmed to transmit the ANSI Temporal pattern for evacuation, March Time 120 PPM for tornado notification, and a custom code for recall.

Standard
**Speaker** Zone – Each of the four (4) circuits on Model ZIC-4A can be configured for use as a standard speaker circuit in single or dual-channel systems. Model ZIC-4A can be used with the Model ZAM-180 bulk amplifier, or Model ZAC-40 amplifier card. Each circuit on Model ZIC-4A is limited to 96 Watts per zone.

**Releasing** Zone – Each of the four (4) circuits on Model ZIC--4A can be configured for use as a releasing circuit. This circuit can be used to release Sinorix® 227 or 1230 agents. For proper supervision of a releasing circuit, the Model REL-EOL module must be used. Model REL-EOL can use power directly from the Cerberus PRO Modular system. No external, regulated power supply is required.

**Municipal** Tie – Each of the four (4) circuits on Model ZIC--4A can be configured so that it can be connected to and activate a municipal city tie box. The circuit meets the requirement of some jurisdictions to allow the box to be reset before the FACP. A leased-line module (Model LLM-1) is required for this feature.

**Leased** Line – Each of the four (4) circuits on Model ZIC-4A can be configured for connection to a leased line. The circuits can be programmed to transmit `Alarm', `Supervisory', or `Trouble' signals. A leased-line module (Model LLM-1) is required for this feature.

**Bell** Follower – Each of the four (4) circuits on Model ZIC-4A can be configured as a NAC that can follow the input from another NAC in an external FACP. Circuit 1 on a Model ZIC-4A card within a Cerberus PRO Modular panel system enclosure can be configured as the Bell Follower – Primary and is connected to the external NAC.

Any other ZIC-4A circuit in that enclosure can be configured to follow the state of the Primary Bell Follower. This feature can be used to synchronize coded or ANSI Temporal patterns for audible sounds with another FACP.

## Controls and Indicators

| | |
|---|---|
| **RESET** switch: | Re-initializes Model ZIC-4A card only |
| **POWER** LED: | Indicates the power is applied to Model ZIC-4A |
| **CARD-FAIL** LED: | Alights when the card microprocessor has failed |
| **CAN-FAIL** LED: | Illuminates when the CAN communication fails and Model ZIC-4A is in degrade mode |
| **HNET-FAIL** LED: | Illuminates when the HNET communication fails and Model ZIC-4A is in degrade mode |
| **GND FAULT** LED: | Indicates the detection of a ground - fault condition (either negative or positive) on the field wiring of Model ZIC-4A |
| **ZONE-ACTIVE** LEDs: | Illuminates to indicate the zone has been activated either automatically or manually. There is one (1) LED for each zone |
| **TROUBLE** LEDs: | Indicates the presence of a `Trouble' condition (either an open circuit or a short circuit) on the zone. There is one (1) LED for each zone |

## Electrical Ratings

| | |
|---|---|
| **24V Back Plane or External Power Current Draw:** | See: Note below |
| **24V Current Draw:** [Screw Terminal] | Total Device Current |
| **6.2V Current Draw:** [Back Plane] | 0 |
| **24V Current Draw:** [Standby] | 89mA |

**NOTE:**
The 24V current is dependent on the wiring type and usage of each ZICCkt setting for Model ZIC-4A.

The table found in the left-hand column of the next page contains the required current draws for the wiring type and usage of each zone:

## Controls and Indicators

### ZIC-4A Current Requirement
[ ZIC-4A standby current: 89mA ]

| Zone Usage | Output Current Requirement | 'Class A' Current Requirement |
|---|---|---|
| Not Used | 0 | 0 |
| NAC | 17mA | 6mA |
| Strobe – Sync. | 17mA | 6mA |
| Strobe – Unsync. | 17mA | 6mA |
| Municipal Tie – USA | 34mA | 0 |
| Municipal Tie – Canada | 17mA | 0 |
| Releasing Zone | 17mA | 0 |
| Leased Line – Alarm | 17mA | 0 |
| Leased Line – Trouble | 17mA | 0 |
| Leased Line – Supervisory | 17mA | 0 |
| Bell Follower – Primary | 0 | 0 |
| Bell Follower – Secondary | 17mA | 6mA |
| Speaker Zone | 34mA | 6mA |
| NAC – Coded | 17mA | 6mA |

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| ZIC-4A | 500-033050 | Zone Indicating Card |
| REL-EOL | 500-696359 | End-of-Line Releasing Module |

## Temperature and Humidity Range

Model ZIC-4A is UL | ULC Listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

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**SIEMENS**

Cerberus® PRO

# Cerberus® PRO Modular system

## Network Interface Card
## Model NIC-C

## Architect & Engineer Specifications

☐ HNET communications

☐ XNET communications

☐ CAN network communications

☐ Supports `Class B' – (Style 4) or `Class A' – (Style 7) wiring for XNET or HNET

☐ Supervises the HNET or XNET and CAN networks

☐ Diagnostic light-emitting diodes (LEDs)

☐ Isolates short circuit faults

☐ Ground-fault detection

☐ Network repeater

☐ Downloadable firmware

☐ UL864 | CAN / ULC Listed;

## Product Overview

The Network Interface Card (Model NIC-C) provides HNET or XNET network communications between enclosures. In addition to the HNET or XNET communication, Model NIC-C provides CAN network communication within an enclosure or external to the enclosure. The HNET or XNET can be wired `Class B' – Style 4 or `Class A' - Style 7, but the CAN network can only be wired `Class B' - Style 4.

## Specifications

A single Model NIC-C can provide either HNET or XNET communications. The CAN interface is available regardless of the HNET or XNET usage.

When Model NIC-C is used for HNET communications, Model NIC-C provides communication between enclosures within a single system. The maximum HNET Model NIC-C cards on a single system (single node) is 50.

Model NIC-C supervises the HNET network to insure proper operation. Model NIC-C also isolates a short-circuit fault to each individual segment of the HNET network. Model NIC-C provides an electrical repeater for each HNET pair.

When Model NIC-C is used for XNET communications, communication is provided between systems. The maximum XNET Model NIC-C cards for a single-node system is one (1), totaling 59 XNET Model NIC-C cards on a peer-to-peer, networked system. The XNET Model NIC-C card must reside in the same enclosure as the Operator Interface (OI).

Model NIC-C supervises the XNET network to ensure proper operation. Model NIC-C also isolates a short-circuit fault to each individual segment of the XNET network. Model NIC-C provides an electrical repeater for each XNET pair. MXL systems may also reside on the same XNET with Cerberus PRO Modular systems.

**Model NIC-C**
Network
Interface Card

## Specifications – (continued)

Each Cerberus PRO Modular system will report events over the XNET to the Network Command Center for display. The following commands are displayed on Model NCC-G: `Trouble' | `Acknowledge' | `Alarm-Silence | `System-Reset, which are also each initiated at Model NCC. Model NCC can also be used to perform maintenance commands on an individual Cerberus PRO Modular system on the XNET communications bus.

Each Model NIC-C Card takes one (1) card slot and mounts in a Model CC-2 or Model CC-5 Card Cage inside a Model CAB-1 | Model CAB-2 | Model CAB-3 enclosure.

Model NIC-C also comprises the CAN network, which supports Model LCM-8 | SCM-8 | FCM-6 | OCM-16 | SIM-16 CAN modules. Up to 99 CAN module addresses are available per enclosure.

The Network Interface Card has diagnostic LEDs that indicate Card Fail | CAN Fail | HNET Fail | XNET Fail | Ground Fault | `Loop A' Fail, and `Loop B' Fail. Each Model NIC-C also has LEDs to indicate Power | Style and Active Networks.

## Temperature and Humidity Range

Product is UL 864 9th Edition Listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

### Electrical Ratings

| INPUT POWER | |
|---|---|
| 24V BACK PLANE CURRENT | 120mA |
| 24V CURRENT (SCREW TERMINAL) | 0 |
| 6.2V BACK PLANE CURRENT | 0 |
| 24V CURRENT (STANDBY) | 120mA |

| OUTPUT POWER | |
|---|---|
| EACH HNET / XNET AND CAN NETWORK PAIR | 8V, peak-to-peak, max |
| | 75mA, max. (during message transmission) |

### Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| NIC-C | 500-033240 | Network Interface Card |

## Cerberus® PRO

**SIEMENS**

# Cerberus PRO

## Digital Alarm Communicator Transmitter
### Model FCA2015-U1

—————————ARCHITECT AND ENGINEER SPECIFICATIONS—————————

- Four (4) separate monitoring accounts available
- Sends serial data to a central monitoring station
- Two (2) phone lines available
- Reports in eight (8) standard-communication formats
- Automatic 24-hour test feature
- Connects to either a 252-point (Model FCI2016-U1), or 504-point (Model FCI2017-U1) periphery board, and mounts to any of the following:
    - up to 252-point addressable panel: FC922 (fire) or FV922 (voice)
    - up to 504-point addressable panel: FC924 (fire) or FV924 (voice)
    - Cerberus PRO fire terminal, Model FT924
- **All programming is made as part of the Cerberus PRO control panel's set configuration**
    - Compatible with built-in Erasable Programmable Read-Only Memory [EEPROM] system firmware



- ®UL Listed, ®ULC Listed
    - for central-station / remote-station monitoring
- ®UL 864 9th Edition Listed, ®ULC Listed; FM, CSFM and NYC Fire Dept. Approved

## Product Overview

The Digital Alarm Communicator Transmitter (DACT) is used to provide communication between either a 252-point or 504-point addressable Cerberus PRO system; one (1) Fire Terminal (Model FT924), and with either a central or remote monitoring station.

The Model FCA2015-U1 DACT module mounts directly on the back enclosure and connects to the periphery boards. Each DACT enables remote transmission of alarms and events via a public telephone line.

Additionally, Model FCA2015-U1 supports two (2) lines and four (4) accounts, and can transmit serial information (including the address of the event) to the monitoring station. Any of the accounts can send *Alarm*, *Gas Alarm*, *Supervisory*, *Trouble*, *Reset*, or *Trouble*-restore data (or any combination) as required.

Each DACT can perform the automatic 24-hour test required by NFPA, Chapter 4. Model FCA2015-U1 is FM (#3010); CSFM (#7165-0067:0259) and FDNY (#6104) Approved.

Available communication protocols include:

- SIA DCS 8
- SIA DCS 20
- Ademco Contact ID
- 3/1 1400 Hz
- 3/1 2300 Hz
- 4/2 1400 Hz
- 4/2 2300 Hz

## Temperature and Humidity Range

| Electrical Ratings ( @ 24VDC ) | Standby-module current: | | 33.5mA |
|---|---|---|---|
| | Active-module current: | | 43.5mA |
| Connections | System Bus | ▪ Design | 14 — 22 AWG [American Wire Gauge] |
| | | ▪ Admissible cross-section cable | |
| | Type | 14-pin, ribbon-cable connection | |
| Physical Properties | Dimensions: ( W-x-H-x-D ) | 4" –x– 5" –x– 0.8" (10.2 cm. –x– 12.7 cm. –x– 2.0 cm.) | |
| | Weight: | 0.44 Lbs. (20g) | |

## Cerberus® PRO

**Fire Safety Products**

# 9804

**Digital Alarm Communicator Transmitter**

**SIEMENS**

## Table of Compatible Alarm Communicators

Each Model FCA2015-U1 dialer can utilize different communication technologies – including Internet Protocol (IP) and Global System Mobile (GSM) communication technologies on Siemens fire-alarm control panels – in order to connect to compatible central-station receivers for off-premises monitoring:

| Communication Technology | Bosch C900V2 | DSC 3G3070-CF | DSC TL300CF | Telguard TG7GFS04 |
|---|:---:|:---:|:---:|:---:|
| IP | ✓ | | ✓ | |
| GSM | | ✓ | | ✓ |

## Central Station Receiver Compatibility Table

The following table shows a list of central-station receivers that are compatible with Cerberus PRO Models FC922 [252-point] and FC924 [504-point] addressable systems – as well as with Siemens Models FV922 [252-point] and FV924 [504-point] fire-with-voice control panels:

| Communication Protocol | Honeywell M8000 | Silent Knight 9822 | Bosch D6600 | Bosch D6100 |
|---|:---:|:---:|:---:|:---:|
| SIA DCS 8 | ✓ | | ✓ | ✓ |
| SIA DCS 20 | ✓ | | ✓ | ✓ |
| Ademco Contact ID | ✓ | ✓ | ✓ | ✓ |
| 3/1 1400 Hz | ✓ | ✓ | ✓ | ✓ |
| 3/1 2300 Hz | ✓ | ✓ | ✓ | ✓ |
| 4/2 1400 Hz | ✓ | ✓ | ✓ | ✓ |
| 4/2 2300 Hz | ✓ | ✓ | ✓ | ✓ |

Notes: Multiple central-station receivers are compatible with the Cerberus PRO 252 / 504-point FACPs, Models FC922 and FC924, respectively. These receivers also work with Cerberus Intelligent Voice Communication: Models FV922 and FV924.

Although the table above illustrates central-station receivers that have been verified by Siemens, additional receivers and formats can also be used with each addressable system.

After completing the installation, communication between the Digital Alarm Communication Transmitter (Model DACT) and Central Station Receiver must be tested and verified.

## Temperature and Humidity Range

Model FCA2015-U1 is ®UL 864 9th Edition Listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0 +/- 2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

## Related Documentation

| Product | Data Sheet Number |
|---|:---:|
| Fire Terminal and Equipment | 9803 |
| Cerberus PRO 252-point system | 9815 |
| Cerberus PRO 504-point system | 9815 |
| Cerberus PRO Intelligent Voice Communication | 9821 |

## Details for Ordering

| Model | Part Number | Description |
|---|---|---|
| FCA2015-U1 | S54400-A63-A1 | Cerberus PRO Digital Alarm Communicator Transmitter |

## SIEMENS Cerberus® PRO

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NOTICE — The information contained in this data-sheet document is intended only as a summary, and is subject to change without notice. The devices described here have specific instruction sheets that cover various technical, limitation and liability information.

Copies of these instruction sheets and the General Product Warning and Limitations document, which also contains important information, are provided with the product and, are available from the Manufacturer.

Information contained in these documents should be consulted before specifying or using the product. For further information or assistance concerning particular problems contact the Manufacturer.

# Cerberus® PRO Modular system

## XDACT Assembly
## Models XDACT-ASSY
## (for use with Model FCA2015-U1)

## Architect & Engineer Specifications

☐ Holds the dialer used on Cerberus PRO Modular system fire-alarm control panels (FACPs)

- For use with a Siemens Model FCA2015-U1 digital- alarm communications transmitter (DACT)
- Compatible with current IP and GSM dialers
- Accounts can either be Ademco ID or SIA
- One (1) Model XDACT-ASSY as well as one (1) Model FCA2015-U1 DACT are required for purchase
- A Model XDACT-ASSY is comprised of one (1) XDACT assembly plate and one (1) Operator Interface (OI) connection cable and power connector

☐ Configured directly from the custom-configurable programming tool, *Zeus-D*

- Global or local configuration
- For global configurations via *Zeus-C*, the Model XDACT-ASSY must be located in the Global OI cabinet

☐ Firmware upgradeable similar to all Cerberus PRO modules

- Initial upgrade required

☐ Adjustable connection-test timing

☐ Mounts on the inner door of a Cerberus PRO Modular system panel, adjacent to the OI

☐ UL864 & CAN / ULC-S576 Listed

## Product Overview

Used as a component in Siemens Cerberus PRO Modular control panels, the XDACT Assembly (Model XDACT-ASSY) is the blank plate used for holding the optional Digital Alarm Communication Transmitter (DACT), Model FCA2015-U1.

Model XDACT-ASSY can be mounted on all Cerberus PRO Modular systemCAB-series enclosures. The XDACT assembly vertically mounts on the back, left-hand side of an inner door of a Cerberus PRO Modular system panel, adjacent to a Operator Interface (OI). Each XDACT assembly plate is only available in **black**.

In turn, the DACT mounts onto the XDACT assembly plate face first – with its back end facing outward.

While a DACT can be configured globally or locally, a Model XDACT-ASSY must be located in the Global OI cabinet for global configurations.

Available communication protocols on a given DACT module include:

- SIA DCS 8
- SIA DCS 20
- Ademco Contact ID

## Temperature and Humidity Range

Model XDACT-ASSY, as well as Model FCA2015-U1, are UL 864 9th Edition Listed for indoor dry locations within a temperature range of 120 +/-3°F (49 +/- 2°C) to 32 +/- 3°F (0° +/- 2°C) and a relative humidity of 93 +/- 2% at a temperature of 90 +/- 3°F (32 +/- 2°C).



Model XDACT-ASSY
XDACT Assembly

## Technical Data

| PHYSICAL PROPERTIES | |
|---|---|
| **DIMENSIONS** { W –x– H –x– D } | 4.8" –x– 14.81" –x– 0.37" (12.2 cm. –x– 37.6 cm. –x– 0.9 cm.) |
| **WEIGHT** | Approx. 1.8 lbs. (817g) |

## Compatibilities

### Table of Compatible Alarm Communicators

Each ModelXDACT-ASSY, via the use of a Model FCA2015-U1 dialer, can utilize different communication technologies – including Internet Protocol (IP) and Global System Mobile (GSM) communication technologies on Siemens fire-alarm control panels in order to connect to compatible central-station receivers for off-premises monitoring:

| COMMUNICATION TECHNOLOGY | BOSCH C900V2 | DSC 3G3070-CF | DSC TL300CF | TELGUARD TG7GFS04 |
|---|---|---|---|---|
| IP | ✓ | | ✓ | |
| GSM | | ✓ | | ✓ |

### Central Station Receiver Compatible Table

The following table shows a list of central-station receivers that are compatible with Cerberus PRO Modular FACPs:

| COMMUNICATION PROTOCOL | HONEYWELL M8000 | SILENT KNIGHT 9822 | BOSCH D6600 | BOSCH D6100 |
|---|---|---|---|---|
| SIA DCS 8 | ✓ | | ✓ | ✓ |
| SIA DCS 20 | ✓ | | ✓ | ✓ |
| ADEMCO CONTACT ID | ✓ | ✓ | ✓ | ✓ |

NOTES: Multiple central station receivers are compatible with Cerberus PRO Modular control panels. Although the table above illustrates central station receivers that have been verified by Siemens, additional receivers and formats can also be used with each of these addressable systems. After completing the installation, communciation between the Digital Alarm Communication Transmitter (Model FCA2015-U1) and Central Station Receiver must be tested, verified.

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| XDACT-ASSY | S54430-A5-A1 | Cerberus PRO Modular system XDACT Assembly: <br>• One (1) XDACT assembly, Model XDACT-ASSY <br>• One (1) power connection cable for connection between a Model FCA2015-U1 and a Operator Interface (OI) |
| FCA2015-U1 | S54400-A63-A1 | Digital Alarm Communications Transmitter |
| | S54430-C4-A1 | Hardware Key for Model FCM2041-U3 Global Operator Interface |

**Cerberus® PRO**

**SIEMENS**

# Cerberus® PRO

## Power Supply Charger | Power Supply Extender | Power Termination Board

### Models PSC-12 | PSX-12 | PTB

## Architect & Engineer Specifications

- ☐ Model PSC-12 is the main-system power supply

- ☐ Model PSX-12 is the optional, system-power-expansion module
  - Up to three (3) Model PSX-12s connected to one (1) Model PSC-12

- ☐ PSC-12 and PSX-12 each include a Power Termination Board (Model PTB) for AC field connections

- ☐ Model PSC-12 has a built-in charger for up to 100AH batteries

- ☐ Main and optional power supply each has a universal AC power input: 120VAC – 240VAC @ 50 / 60Hz

- ☐ Filtered and regulated, total output power for each power-supply type is output 12 Amps @24VDC
  - 24VDC and 6.2VDC power contact between panel and to all power modules via a 60-pin connector
  - Provides 12A | non-power-limited | 24VDC output (internal use)
  - 4-Amp, power-limited 24VDC output (external use)
  - Common `Alarm' and `Trouble' relays (Form `C' rated @ 2A)
  - Two (2) programmable relays (`Form C' rated @ 2A)

- ☐ Any of the three (3) modules mount on back box or optional Model CAB-MP in one (1) module space

- ☐ Ground-fault-detection circuitry for all three (3) power-equipment types

- ☐ UL864 & CAN / ULC-S576 Listed

## Product Overview

**Main-Power Supply Charger –> Model PSC-12**

The Model PSC-12 Power-Supply Charger is a high-current power supply that provides a Cerberus PRO Modular panel with primary, regulated 24VDC power to operate at 12 Amps (`Alarm' mode) / 5 Amps (`Standby').

With its built-in battery charger – capable of charging up to 100AH batteries, Model PSC-12 is an addressable-intelligent, microprocessor-controlled power module that communicates its status to the Cerberus PRO Modular Operator Interface (OI), Model FCM2041-U3. Moreover, the panel's OI is able to query the status of the power supply to obtain data regarding system-charging current | terminal-loading information | ground fault-conditions and more.

Model PSC-12 is a universal power supply; accepting AC power-input levels from 120VAC – 240VAC @ 50 / 60Hz. No special configuration is required: Model PSC-12 is designed to operate across these AC input ranges. A 60-pin connector is used for communication between a Model PSC-12 charger and other system cards and modules. The communication transmission (of which has variables of 6.2VDC and 24VDC), is referred as `back-plane current'.

Each Model PSC-12 provides 12 Amps of system output power @ 24VDC. Two (2) separate power-output terminals are available: one (1) power limited with 4A max @ 24VDC capacity, as well as one (1) non-power limited with 12A max @24VDC capacity (the total not to exceed 12A). Model PSC-12 also provides two (2) connection points for the 60-pin power / data bus. Additionally, the 24VDC outputs found a Model PSC-12 provide auto-resettable current protection circuits for overload and short-circuit panel conditions.

In event of a Cerberus PRO Modular system power failure, backup batteries are used. Though when main-system power is active, Model PSC-12 is able to charge back-up batteries that carry the following current: up to 15AH | 31AH | 75AH and up to 100AH batteries. The battery sizes that are used in a given Cerberus PRO Modular panel are entered into the custom-configuration software tool, *Zeus-C*, and the power charger (Model PSC-12) has three (3) modes – dependent upon condition: Bulk (full) Charge State | Trickle Charge State and Float (maintenance) State. Model PSC-12 subsequently is able to monitor the condition of the batteries automatically, determining which of the charging modes to activate.

**NOTE:** Model PSC-12 can only charge lead-acid batteries.

**Model PSC-12**
Cerberus PRO Modular
Power Supply Charger

**Model PSX-12**
Cerberus PRO Modular
Power Supply Extender

## Product Overview – (continued)

### Main-Power Supply Charger –> Model PSC-12

Model PSC-12 mounts on one (1) of four (4) available module spaces directly on the back box or optional Model CAB-MP module mounting plate, which then mounts inside of Models CAB-1 | CAB-2 or CAB-3 system enclosures.

Additionally, Model PSC-12 has four (4) Form 'C' relays rated at 2 Amps each. A relay is dedicated to automatically operate on '**Any System Alarm**' – this is the Common Alarm Relay. Another is dedicated to automatically operate on '**Any System Trouble**' - this is the Common 'Trouble' Relay. Two (2) additional relays are available for programming and activation, based upon system-control logic. When a door-tamper switch is required in any CAB-series enclosures, the Model HTSW-1 tamper switch can be optionally connected to a Model PSC-12 to provide this functionality.

Model PSC-12 has diagnostics LEDs to indicate 'Power On', 'Module Failure' (internal module failure), 'H-NET Failure' (network-communication failure), 'Ground Fault' (internal to enclosure or on any 24VDC output circuits), '24VDC | 12A Fail', and '24VDC | 4A Fail.' Model PSC-12 module is addressed using plain, decimal-address switches, which clearly state the address of the module. As an option, an extender cable (Model PSC-ISO-CBL) allows use for two (2) Cerberus PRO Modular power supplies (Model PSC-12) in one (1) Model CAB-series enclosure.

### Power Termination Board –> Model PTB

The Power Termination Board comes packaged with a module known as Model PTB. Model PTB is the Power Termination Board, and is required for operation with the Power Supply Charger (Model PSC-12). Model PTB must be mounted in the lower-right corner of the CAB enclosures. Mounting studs are provided in all enclosures to mount to Model PTB.

Model PTB contains screw terminals for the usage of AC-input power. Model PTB contains an AC-line filter and AC-line power breaker rated at 5A. From another connector on Model PTB, AC power is connected directly to Model PSC-12, via a keyed-cable harness. Each Model PTB supports building AC-power-connection circuits for two (2) power supplies – either one (1) for Model PSC-12 and one (1), optionally, for the Power Supply extender (Model PSX-12.) When more than one (1) Model PSX-12 Power Supply extender is used, a second Model PTB is required, and must be ordered separately.



Model PSC-12

Model PTB

Model PTB has an optional connector that can be used during system installation, commissioning and service to provide the technician with a place to plug in their laptop computer, if required. Model AC-ADPT is an optional accessory cable that allows connection on one side to Model PTB, via a keyed connector, and on the other end directly into to the laptop's transformer. Most PC external power transformers have removable AC power cords which can be replaced by Model AC-ADPT to temporarily provide an AC power source for PCs used during system installation, service and maintenance calls, when needed.

### Power Supply Extender –> Model PSX-12

The Power Supply Extender is a high-current, auxiliary-power supply that expands the main Model PSC-12 power supply and battery charger for the Cerberus PRO Modular system with an additional 24VDC power. Model PSX-12 is rated at 12 A.

Model PSX-12 is an addressable intelligent microprocessor-controlled module that communicates its status to the system-operator interface (OI) to report fault conditions. Model FCM2041-U3 is able to query the status of the power supply to obtain information regarding terminal-loading information, ground-fault conditions and more.

Model PSX-12 is a universal power supply; accepting AC power-input levels from 120VAC – 240VAC, and has an off-line, switch-mode power converter and power-factor-correction circuit to improve conductive RF emissions at low frequency. No special configuration is required.

Additionally, Model PSX-12 works with the panel's communication protocol in order to work with other system cards and modules, via the system's common 60-pin power/data bus. Model PSX-12 provides a full 12 Amps of power @ 24VDC. There are two (2) separate power-output terminals: one of which is power-limited with 4A max @24VDC capacity. The other terminal is non-power-limited with 12A max @24VDC capacity (total is not to exceed 12A).

Similar to Model PSC-12, each Cerberus PRO Modular Power Supply Extender mounts to one (1) of four (4) available module spaces on the back box or optional Model CAB-MP module mounting plate, which subsequently mounts inside a Models CAB1, CAB2 or CAB3 system enclosure.

Model PSX-12 has diagnostics LEDs to indicate 'Power On'; 'Module Failure' (internal module failure); 'H-NET Failure' (network communication failure); 'Ground Fault' (internal to enclosure or on any 24VDC output circuits), 24VDC 12A fail and 24VDC 4A fail. Model PSX-12 is addressed using plain, decimal-address switches, which clearly state the address of the module.

## Temperature and Humidity Range

Cerberus PRO Modular power supplies are UL Listed | ULC Listed. Environmental operating conditions for each powering module is 32°F (0°C) to 120°F (49°C) with a relative humidity of no greater than 95%, non-condensing.

## Electrical Ratings

|  | MODEL PSC-12 | MODEL PSX-12 |
|---|---|---|
| INPUT VOLTAGE: | 120VAC @ 50 / 60 Hz. 220VAC @ 50 / 60 Hz. 240VAC @ 50 / 60 Hz. | 120VAC @ 50 / 60 Hz. 220VAC @ 50 / 60 Hz. 240VAC @ 50 / 60 Hz. |
| INPUT CURRENT: | 3.5A, max. @ 120VAC 2.5A, max. @ 220VAC 2.0A, max. @ 240VAC | 3.5A, max. @ 120VAC 2.5A, max. @ 220VAC 2.0A, max. @ 240VAC |
| 24VDC BACK PLANE CURRENT: | 2.0A, max. | Not Applicable |
| SCREW TERMINAL, 24V CURRENT: | Power Limited: 4.0A, max. / Non-Power Limited: 12A, max. | Power Limited: 4.0A, max. / Non-Power Limited: 12A, max. |
| 6.2VDC BACK PLANE CURRENT: | 2.0A, max. | Not Applicable |
| 24V STANDBY CURRENT: | 150mA + 20mA per active relay | 150mA |
| OUTPUT CURRENT [Each HNET / XNET and CAN Network Pair] | 8V Peak-to-peak max. / 75mA, max. during msg. transmission | 8V Peak-to-peak max. / 75mA, max. during msg. transmission |

| MODEL PTB | |
|---|---|
| AC MAINS RATING | EACH MODEL PSC-12 \| PSX-12 |
| 120VAC @ 50 / 60 Hz. | 3.5A, max. |
| 220VAC @ 50 / 60 Hz. | 2.5A, max. |
| 240VAC @ 50 / 60 Hz. | 2.0A, max. |

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| AC-ADPT | 500-633992 | Technician Laptop-Power Connector |
| BP-61 | 175-387194 | 15 AH @ 24VDC Battery |
| BTX-1 | 175-083897 | Set of 31AH @ 12V Batteries |
| BTX-2 | 175-083898 | Set of 55AH @ 12V Batteries |
| BTX-3 | 599-034220 | Set of 100AH @ 12V Batteries |
| CAB-BATT | 500-633917 | Battery Enclosure for 75AH or 100AH Batteries |
| HTSW-1 | 500-033350 | Door Tamper Switch |
| PSC-12 | 500-033340 | Power Supply and Battery Charger (12A @24VDC) |
| PSC-ISO-CBL | S54430-K4-A1 | Optional Extender Cable (used for holding two [2] Model PSC-12 power supplies in one [1] Model CAB-series enclosure |
| PSX-12 | 500-034120 | Power Supply Extender (12A @24VDC) |
| PTB | 500-033390 | Power Termination Board [only required for applications with more than two (2) Model PSX-12 extenders] |

Cerberus® PRO

**SIEMENS**

# FACP Accessories

## PAD-5 Addressable Power Supply Unit

Models PAD5-6A | PAD5-6A-R | PAD5-9A | PAD5-9A-R

## Architect & Engineer Specifications

☐ PAD-5 comes standard with a variable of four (4) `Class B', two (2) `Class A' output circuits, and is expandable, via Model PAD-5-CLSA, to four (4) additional `Class B', two (2) `Class A' output circuits

☐ Power supplies support notification-appliance circuit (NAC) power:
  - up to 6A used with Model FP2011-U1
  - up to 9A used with Model FP2012-U1

☐ Complete, real-time PAD-5 unit status at the main fire-alarm control panel

☐ 24VDC output voltage
  - 3A of auxiliary-output power

☐ Automatically recognized variable end-of-line (EOL) values
  - 2.2k – 24kΩ

☐ Multi-module mounting in a two-height-unit (2HU) enclosure

☐ Model PAD-5-CLSA allows optional releasing functionalities for:
  - pre-action
  - deluge
  - clean agent

☐ Built-in strobe synchronization:
  - supports coded audible signals, including Temporal 3 | T4 patterns

☐ `Form C' general `Trouble | AC Fail' monitoring contact

☐ Battery supervision and control

☐ Ground-fault detection

☐ Advanced microprocessor control

☐ Uses Flash memory-based system firmware
  - optional system-diagnostic and firmware-upgrade tool

☐ Americans with Disabilities Act (ADA) compliant

☐ UL 864 10th Edition | UL 1076 | UL 2017 | UL 2572 Listed; ULC-S527 and ULC-S576-1

## Product Overview

Used with Siemens - Fire Safety fire alarm control panels (FACPs); PAD-5 is an UL 10th Edition | ULC-S527 Listed, addressable power-supply unit that complies with the notification requirements of the Americans with Disabilities Act (ADA). Each PAD-5 unit can provide up to 9 Amps of NAC power with up to eight (8) supervised NACs and auxiliary power output.

Features include:

- Intelligent controller resides on SLC loop
- Four (4) `Class A' or eight (8) `Class B' NACs that can be mixed
- `Class X' wiring-isolator device
- Temperature-compensated battery-charging circuits
- `Trouble' relays for remote monitoring
- Diagnostic light-emitting diodes (LEDs)
- Alternating Current (AC) power connection

The Siemens NACs, which connect with alarm signaling devices, have been designed to provide the highest level of reliability and performance.

Signal coding on the circuits is accomplished through integrated circuits (rather than relays), which eliminates mechanical wear on the output circuits.

Additionally, each PAD-5 unit supports P2 addressable communications and P2 device-level fault indicators – via use of a Model XDLC loop card connected to a Siemens Modular control panel. Monitoring status and individual NAC control from a single address are also provided by a PAD-5 unit. Per ULC, separate ground-fault detection and indication for all remote power supplies are required. The GND FLT Relay provides a Normally Open (N.O.), `Form A' contact that can be monitored via a monitoring module, such as Siemens Model HTRI-series modules or the 4 In / 4 Out Module, Model FDCIO422.

In terms of electrical characteristics, PAD-5 power supply units provide steady 24VDC output voltage to each NAC – independent of voltage fluctuations on the primary or secondary power source. Consequently, a larger voltage drop and a greater wire length for each NAC are supported by a Siemens PAD-5 unit.

## Specifications

The Siemens PAD-5 can be configured in the following manner that makes the outputs easily programmable:

- `Steady' outputs
- Synchronized strobe outputs
- American National Standards Institute (ANSI) Temporal 3
- ANSI Temporal 4 (for carbon monoxide [CO] alarm signal)
- March Time 30, 60 or 120 PPM

There is also one (1) supervised NAC Follower input circuit that is driven by a Siemens FACP, NAC or from a PAD-5 main board, Model PAD-5-MB.

**Typical configuration of two (2) main boards mounted in a two-height-unit (2HU) enclosure**

NOTE: One-height-unit (1HU) and two-height-unit (2HU) enclosures are versatile, universal housings. Either size can be used on any type of Siemens PAD-series power-supply unit and the Booster Amplifier.
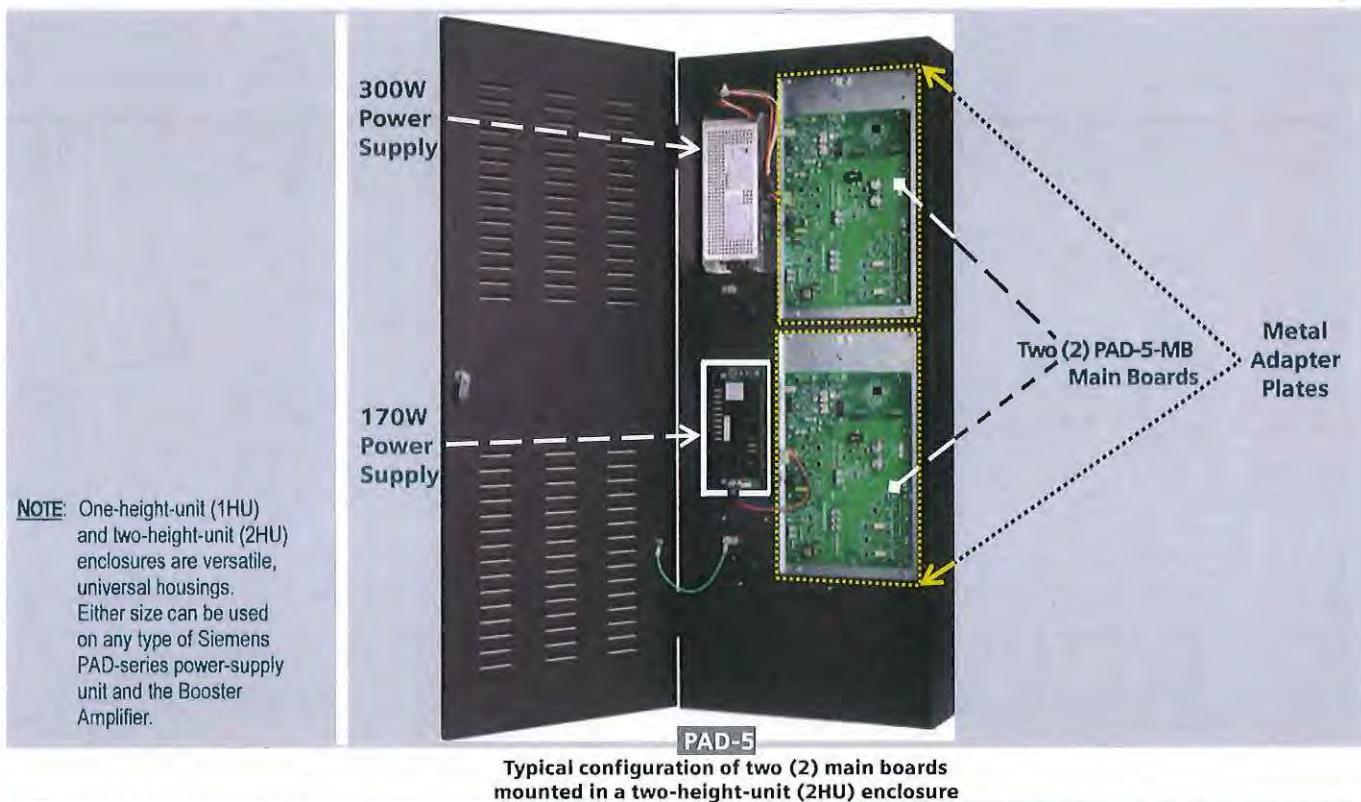
## Specifications – (continued)

Four (4) `Class B' or two (2) `Class A' NACs are standard:
- Rated 3A each for conventional reverse polarity 24 VDC notification appliances with various operation modes
- The four (4) outputs can be configured as non-Alarm, contact-only input circuits
- Capability to mix-and-match Class A/B expansion NAC circuits

Internal 6.5A or 9A power supply / battery charger:
- Charges internal batteries up to 18AH (for 1HU); up to 35AH (for 2HU), and up to 100AH in external cabinet (Siemens Model BB-55–series battery boxes; available in black or red)
- Provides status monitoring of battery | input power | Earth faults



**Typical 1HU enclosure configuration**

## PAD-5 Unit Components

### PAD-5-MB

The main board (Model PAD-5-MB) used with PAD-5 notification-extender units provides remote, auxiliary power for signaling appliances. Model PAD-5-MB also allows for expansion of notification appliances (NACs) that plug into each main board. Each PAD-5-MB main board connects via the P2 loop of a Siemens `X'-series Device Loop Card (Model XDLC) connected to the Siemens Modular fire-alarm control panel (FACP). Up to 32 Siemens PAD-5 main boards or mixture expansion cards can connect to one (1) Model XDLC at a time. Additionally, Model PAD-5-MB has one (1) address, and is programmed with the Siemens Device Programmer / Test Unit, Model DPU.



**Model PAD-5 MB**

### PAD-5-CLSA

Used in conjunction with PAD-5 units, the `Class A/B' Expansion Module (Model PAD-5-CLSA) provides additional connectivity of Siemens signaling appliances. In order for proper additional functionality, two (2) circuits, rated at 3A max., are wired as `Class A', or four (4) circuits are wired as `Class B'. Model PAD-5-CLSA uses one (1) address on the P2 loop. The address for Model PAD-5-CLSA must be the next sequential (numerical) address to that of the connected Model PAD-5-MB main board.

The Model DPU programmer / test unit is used to program the P2 address of each Model PAD-5-CLSA. There are LED indicators for each zone, as well as for the P2 interface and for the status of the card. Additionally, Model PAD-5-CLSA can be used in Sinorix® pre-action, deluge sprinkler, or for clean-agent control. There is an on-board releasing disconnect switch that can be used to disable power to both releasing circuits, thus preventing accidental discharge of clean agent during routine maintenance.



**Model PAD-5-CSLA**
**Mounted to a PAD-5-MB Main Board**

### PAD-5-CDC

Model PAD-5-CDC is the Conventional Zone Module used with PAD-5 notification-extender units. Specifically, each Model PAD-5-CDC supports four (4) `Class A' or four (4) `Class B' conventional-detection zone-input circuits. The address for Model PAD-5-CDC must be the next sequential (numerical) address to that of the connected Model PAD-5-MB main board.
Up to 30 Siemens conventional smoke detectors are supported, per zone.

All information, per circuit, is displayed from the Operating Unit of the Siemens Modular FACP. Each Model PAD-5-CDC supports Siemens and other-branded smoke detectors, as well as one (1) beam detector per zone. Additionally, Model PAD-5-CDC provides optional alarm verification by circuit, as well as consistent ground fault detection.



**Model PAD-5-CDC**
Mounted to a PAD-5-MB
Main Board

### PAD-5 Enclosures

There are two (2) types of unit enclosures available for Siemens PAD-5 power units / extenders. The one-height-unit (1HU) enclosure, Model PAB-ENCL, is the basic enclosure.

Each 1HU enclosure can hold one (1) 170W or one (1) 300W Siemens power supply; one (1) PAD-5 main board, and one (1) adapter plate, and one (1) Model PAD-5-CDC or one (1) Model PAD-5-CLSA. The two-height-unit (2HU) enclosure, Model PAB2-ENCL, allows for more versatility. Each 2HU enclosure can house up to two (2) PAD-5 main boards and power supplies.

A red version of each enclosure is also furnished: Model PAB-ENCL-R for the 1HU enclosure and Model PAB2-ENCL-R) for the 2HU enclosure.



**PAB-ENCL**
1 HU Enclosure



**PAB2-ENCL**
2 HU Enclosure

### Power Supplies

There are also two (2) types of power-limited power supplies for Siemens PAD-5 power units / extenders. (170W) The Model FP2011-U1 power supply provides up to 6 Amps. at 170 Watts of main power to PAD-5, and Model FP2012-U1 provides up to 9 Amps. at 300 Watts.

Additionally, the power supplies can recharge and maintain backup charge for the two (2) back-up batteries. The 170W power supply, Model FP2011-U1, can provide battery-backup charge of 7A (up to 35AH), and the 300W power supply, Model FP2012-U1, provides battery-backup charge of 35AH (up to 100AH)



**FP2011-U1**
(up to 170W)



**FP2012-U1**
(up to 300W)

| Status Indicator LEDs | | |
|---|---|---|
| Battery Charging Status: | Green | Red |
| NAC 1 Status: | Yellow | |
| NAC 2 Status: | Yellow | |
| NAC 3 Status: | Yellow | |
| NAC 4 Status: | Yellow | |
| Auxiliary Output Status: | Yellow | |
| 3.3VDC Status: | Green | |
| Main Microprocessor Status: | Yellow | |
| P2 Loop Status: | Green | Red |

| Configuration Options | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CIRCUIT TYPE | PAD-5 MAIN BOARD | | | | Model CLSA EXPANSION CARD | | | | EOL REQUIRED |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| Sync Coded Pattern | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | Yes 2.2k – 24kΩ |
| Auxiliary Power Output | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | – |
| Releasing* | | | | | ✓ | ✓ | | | Yes to 24kΩ |
| Shorting Device Input | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | Yes 2.2k – 24kΩ |

\* denotes Circuits 7 and 8 are not used for either Aux. Pwr. or NAC Output when PAD-5 is configured for releasing

## Technical Data

| | |
|---|---|
| LINE IMPEDANCE: | 3.2Ω, max per loop |
| ALARM CURRENT: [For NACs & aux. power] | 3.0A per circuit, max. |
| | – 6A, max. [via FP2011-U1] |
| | – 9A, max. [via FP2012-U1] |
| TOTAL OUTPUT POWER: | 24VDC @ 6A, [with the 170W power supply, Model FP2011-U1] |
| | 24VDC @ 9A, [with the 300W power supply, Model FP2012-U1] |
| AMBIENT TEMPERATURE: | +32° – +120°F (0° – +49°C) |
| RELATIVE HUMIDITY: | 0 – 93% @ 86°F (30°C); (non-condensing) |
| AUXILIARY POWER CIRCUIT: | Each circuit @ 3A, max. |
| BATTERY CHARGING CAPACITY: | up to 100AH |
| OUTPUT CIRCUITS | CONFIGURATIONS: | Two (2) `Class A` – up to four (4) `Class A` (via Model PAD-5-CLSA) |
| | – Four (4) `Class B` |
| | – One (1) `Class A`, Two (2) `Class B` |
| INSTALLATION ENVIRONMENT: | indoor | dry |
| NACs: | – Supervised, power-limited ▪ 10mA standby, max. ▪ 3A active Operating ▪ 0.3A Regulated – four (4) circuits – 2K ohms (+), 8K Ω (-) |
| PAD-5 1HU-UNIT DIMENSIONS: [ W -x- H -x- D ] | 16.0″ -x- 24.0″ -x- 3.50″ (40.6 cm -x- 60.9 cm -x- 8.8 cm) |
| PAD-5 2HU-UNIT DIMENSIONS: [ W -x- H -x- D ] | 16″ -x- 40″ -x- 5.5″ (40.6 cm -x- 101.6 cm -x- 14 cm) |
| ENCLOSURE TYPES: | Black or Red |

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| PAB-ENCL | S54339-A8-A1 | PAD-5 1HU enclosure |
| PAB-ENCL-R | S54339-A9-A1 | PAD-5 1HU enclosure, red |
| PAB2-ENCL | S54339-A10-A1 | PAD-5 2HU enclosure |
| PAB2-ENCL-R | S54339-A11-A1 | PAD-5 2HU enclosure, red |
| PAD-5-MB | S54339-A5-A1 | PAD-5 main board (with one [1] adapter plate) |
| PAD-5-CLSA | S54339-A6-A1 | PAD-5 addressable NAC (Class A/B) expansion card |
| PAD-5-CDC | S54339-A7-A1 | PAD-5 Conventional Detector Card |
| FP2011-U1 | 500-450222 | 170W Power Supply |
| FP2012-U1 | S54400-Z60-A1 | 300W Power Supply |

## Details for Ordering – (cont.)

### PAD-5 1HU-only Kits

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| PAD5-6A | S54339-A15-A1 | Complete 6A PAD-5 kit with: – One (1) Unit Enclosure, black (PAB-ENCL) – One (1) Main Board, PAD-5-MB (with one [1] adapter plate included) – One (1) 170W power supply, FP2011-U1 |
| PAD5-6A-R | S54339-A16-A1 | Complete 6A PAD-5 kit with: – One (1) Unit Enclosure, red (PAB-ENCL-R) – One (1) Main Board, PAD-5-MB (with one [1] adapter plate included) – One (1) 170W power supply, FP2011-U1 |
| PAD5-9A | S54339-A17-A1 | Complete 9A PAD-5 kit with: – One (1) Unit Enclosure, black (PAB-ENCL) – One (1) Main Board, PAD-5-MB (with one [1] adapter plate) – One (1) 300W power supply, FP2012-U1 |
| PAD5-9A-R | S54339-A18-A1 | Complete 9A PAD-5 kit with: – One (1) Unit Enclosure, red (PAB-ENCL-R) – One (1) Main Board, PAD-5-MB (with one [1] adapter plate) – One (1) 300W power supply, FP2012-U1 |

### PAD-5 Unit Accessories

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| BAAP | S54339-A14-A1 | Adapter Plate (used to mount a booster amplifier) |
| P3AP | S54339-A12-A1 | Adapter Plate (used to mount a Siemens PAD-3 auxiliary power unit) |
| P4AP | S54339-A13-A1 | Adapter Plate (used to mount a Siemens PAD-4 auxiliary power unit) |

**SIEMENS**

# Notification Appliances

## 'SL' Series – Horns | Strobes | Horn-Strobes

### Applications : Indoor, Ceiling-Only

## Architect & Engineer Specifications

- Sophisticated series of notification appliances that meets fire-industry codes and regulations for commercial-building applications

- Compatible with the Siemens 50-point, 252-point and 504-point addressable fire alarm control panels (FACPs), and with:
  - Siemens Modular FACPs
  - Siemens PAD-series of NAC extenders
  - FireFinder® XLS / XLSV FACPs
  - Siemens dual-sync control (DSC) modules

- Innovative LED strobe technology provides an energy-efficient means for a significantly reduced current draw
  - Capability to have existing Xenon and new LED strobes in the same field-of-view
  - Fewer power supplies required, smaller wire gage, reduced wire runs

- Straightforward installation coupled with compact, modern design
  - No visible mounting screws
  - Manual (index finger) slide-setting adjustor
  - Four (4) field-selectable settings in one (1) device: 15cd | 30cd | 75cd | 95cd

- Faceplates ship in four (4) distinctive types:
  - "FIRE" | "ALERT" | "AGENT" | (blank)

- Two (2) audible settings in each notification appliance
  - Temporal or steady horn output
  - High or Low setting

- UL (2034 | 1971 | 464) and ULC Listed (ULC-S525 | -S526)
  - ADA | NFPA | FCC | ANSI | OSHA compliant

UL   ULC   OSHA RoHS   ADA NATIONAL

## Product Overview

Formed as the `SL'-series, Siemens is now offering horns, strobes, and horn-strobes with LED based strobes to its notification-appliances portfolio.

With the `SL'-series, Siemens now offers an additional range of products with low and high candela settings that makes these sophisticated notification appliances ideal for new installs and retrofit applications.

Innovative light-emitting diode (LED) strobe technology provides an energy-efficient means for a significantly reduced current draw.

The strobe portion of these appliances meets the 20 millisecond light-pulse-duration requirements of the 2016 edition of NFPA 72. This feature allows existing Xenon and the new LED devices to be used in the same field-of-view.

In a single device, the `SL'-series can provide alarm-signaling tones for dual applications. All strobe models in the series feature multi-candela settings (15 | 30 | 75 | 95cd) on a single appliance.

Additionally, there are two (2) modes of operation for the audible portion of these notification appliances:

- T3 (coded)
- Continuous

The `SL'-series of horns, strobes and horn-strobes devices are produced in a sleek, modern design. Its structure and design provide high-quality energy efficiency in an aesthetically pleasing, low-profile design that is consistent to the look of the interior composition of the building application.

This `SL'-series is exclusive to indoor ceiling-mount applications. The Model `SLHC'-series horn appliances work in either 12V or 24VDC, whereas the Series `SLSC' and `SLHSC' strobe and horn-strobe devices are specifically for 24V operation.

**Model SLHSCR-F**
Horn-strobe

**Model SLSCW-AL**
Strobe

**Model SLHCR-N**
Horn

Flathead screw indentation

1.5" (3.81 cm.) Depth

6.26" (2.84 cm.) Diameter

**'SLHSC' Series**
Ceiling Horn-Strobe

**'SLHC' Series**
Ceiling Horn
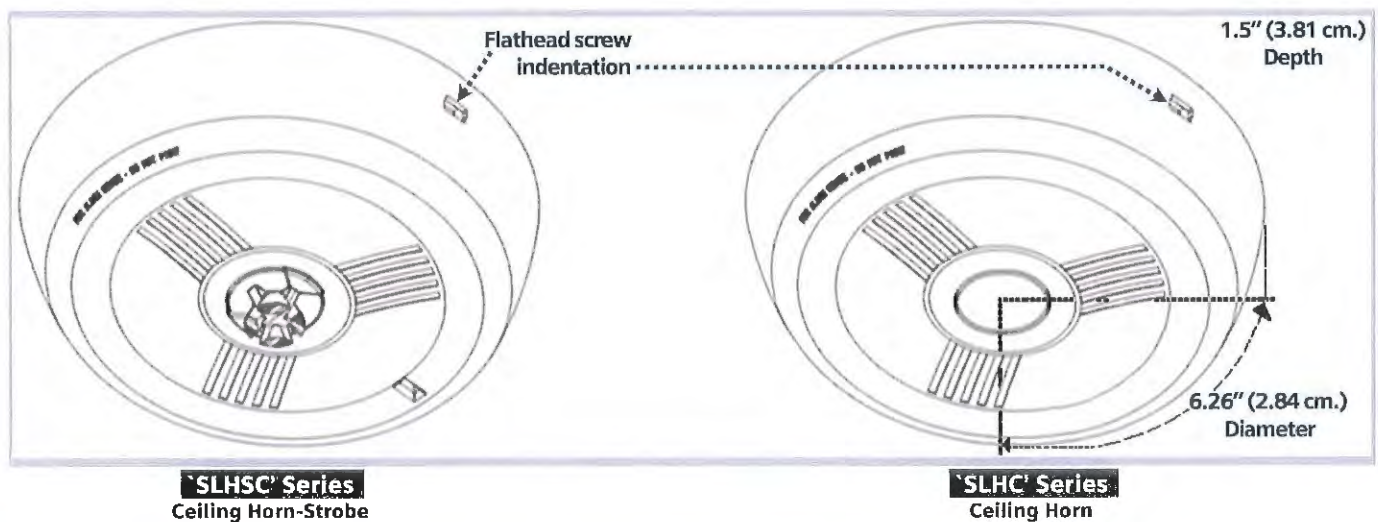
## Specifications

In terms of composition and functionality, Models 'SLHC'-series, 'SLSC'-series, and 'SLHSC'-series provide added value to the installer for the types of applications for operation:

- Compact | sleek | low-profile design
- Comprehensive feature list
- Convenient mounting options
- Easy-to-adjust selection-slider switch for candela settings
  - No tools required for setting changes
  - Multi-level settings: 15cd | 30cd | 75cd | 95cd
- High and Low audible outputs
- Reduced current draw, via cutting-edge LED technology

The LED portions of the Siemens 'SL'-series of strobes and horn-strobes meet the 20 millisecond light-pulse-duration requirements of the 2016 edition of NFPA 72. By meeting this latest requirement, existing Xenon as well as the new LED-technology devices can now be in the same field-of-view.

The horn, strobe and horn-strobes in this Siemens 'SL'-series of notification appliances have received UL / ULC Listed status by attaining compatible testing standards with all of the Siemens fire-alarm control panels (FACPs) and accessories that have been determined to be aligned with existing Siemens strobe-based appliances.

This would include the following existing model-types: 'CH' | 'HS' | 'MTH' | 'S-HQ' | 'AS' | 'SE' | 'SEF' | 'SET' | 'ST' | 'STH' | 'ZR' and 'ZH' Series notification appliances. The regulatory listing also includes the capability for installing the Siemens 'SL'-series sounder-strobes in the same notification zone and field-of-view with any existing Siemens Notification Appliance Xenon-based strobes.

All these horns, strobes and horn-strobes models are UL Listed (for indoor use under Standard 1971 and 464), as well as ULC-S525 | ULC-S526 Listed. The Siemens 'SL'-series sounder-strobes also have ADA | RoHS and ICES approval.

### Ceiling-Mount | Horn-Strobes Output Current Draw

| MODEL 'SLHSC' SERIES: | UL Current Ratings (HIGH dB | in Amps) 16.0 - 33.0 VDC | | | | |
|---|---|---|---|---|---|
| | Setting | 15cd | 30cd | 75cd | 95cd |
| | Code 3 | 0.044 | 0.065 | 0.182 | 0.268 |
| | Continuous | 0.049 | 0.067 | 0.187 | 0.274 |

| MODEL 'SLHSC' SERIES: | UL Current Ratings (LOW dB | in Amps) 16.0 - 33.0 VDC | | | | |
|---|---|---|---|---|---|
| | Setting | 15cd | 30cd | 75cd | 95cd |
| | Code 3 | 0.042 | 0.064 | 0.181 | 0.256 |
| | Continuous | 0.045 | 0.066 | 0.183 | 0.271 |

### Ceiling-Mount | Horn-Only

| MODEL 'SLHC' SERIES: | Current Ratings (Code 3 | in Amps) RMS Current @ 24 Volts DC | | |
|---|---|---|---|
| | Regulated Voltage Range, VDC | High | Low |
| | 8.0 – 17.5 VDC | 0.024 | 0.018 |
| | 16.0 – 33.0 VDC | 0.030 | 0.022 |

### Ceiling-Mount | Strobe-Only Output Current Draw

| MODEL 'SLSC' SERIES: | Current Ratings (in Amps) RMS Current @ 24 Volts DC | | | | |
|---|---|---|---|---|---|
| | Regulated Voltage Range | 15cd | 30cd | 75cd | 95cd |
| | 16.0 – 33.0 Volts DC | 0.040 | 0.058 | 0.171 | 0.256 |

### GENERAL NOTES:

1. Strobes are designed to flash at 1-flash-per-second minimum over their ``Regulated Voltage Range.''

2. NFPA-72 specifies a flash rate of 1-to-2 flashes-per-second, and guidelines for the Americans with Disabilities Act (ADA) specify a flash rate of 1-to-3 flashes-per-second.

3. All candela ratings represent minimum effective Strobe intensity based on UL 1971.

### Ceiling Mount | Horn | Output Ratings | UL

| MODEL 'SLHW'- and - 'SLHSW' SERIES: | UL Sound Output Ratings (dBA) Reverberant per UL464 @ 10 feet | | | | | |
|---|---|---|---|---|---|---|
| | Volume | SLHC @ 12VDC | | | SLHC -and- SLHSC @ 24VDC | | |
| | | 8.0V | 12.0V | 17.5V | 16.0V | 24.0V | 33.0V |
| | Code 3 | High dBA | 75 | 80 | 83 | 76 | 79 | 81 |
| | Code 3 | Low dBA | 73 | 77 | 80 | 75 | 77 | 77 |
| | Continuous | High dBA | 80 | 84 | 87 | 80 | 83 | 86 |
| | Continuous | Low dBA | 78 | 79 | 84 | 78 | 81 | 81 |

### Ceiling Mount | Horn | Output Ratings | ULC

| MODEL 'SLHW'- and - 'SLHSW' SERIES: | ULC Sound Output Ratings (dBA) Anechoic per ULCS525-16 @ 3.05 meters | | | | | |
|---|---|---|---|---|---|---|
| | Volume | SLHW @ 12VDC | | | SLHW -and- SLHSW @ 24VDC | | |
| | | 8.0V | 12.0V | 17.5V | 16.0V | 24.0V | 33.0V |
| | Code 3 | High dBA | 85 | 89 | 92 | 91 | 95 | 96 |
| | Code 3 | Low dBA | 79 | 84 | 87 | 86 | 90 | 91 |
| | Continuous | High dBA | 85 | 89 | 92 | 91 | 94 | 97 |
| | Continuous | Low dBA | 79 | 84 | 87 | 86 | 90 | 92 |

*RMS current ratings are per UL maximum RMS method. UL max current rating is the maximum RMS current within the listed voltage range (16 - 33V for 24V units)

* For audible appliances, the max current is usually at the maximum listed voltage (16 - 33V for 24V units)

^ For unfiltered FWR ratings, see installation instruction

### General Properties

| MODEL 'SL'-series | |
|---|---|
| OPERATING TEMPERATURE: | • 32°F (0°C) to 122°F (50°C) • for indoor-applications' use only |
| RELATIVE HUMIDITY: | 93%, maximum |
| OPERATING VOLTAGE RANGES: | • 12 VDC / VFWR → 8 - 17.5 VDC / VFWR; • 24 VDC / VFWR → 16 - 33 VDC/VFWR (12 VDC for Model SLHC only) |
| STROBE OUTPUT RATING: | • UL 1971, ULC-S526 • Field-selectable 15cd | 30cd | 75cd | 95cd candela outputs |
| STROBE FLASH RATE: | Strobes are designed to flash at one-flash-per-second |
| STROBE SYNCRONIZATION: | • all Siemens addressable panels • Siemens PAD-series NAC extenders • Siemens dual-sync (DSC) modules, which provide the unique Siemens proprietary synchronization protocol |
| TEMPORAL PATTERN: | • Continuous • Code 3 (½ second on, ½ second off; then ½ second on, ½ second off; followed by ½ second on, 1-½ second off and repeat) NOTES: The Code 3 pattern is specified by ANSI and NFPA 72 for Standard Emergency Evacuation Signaling. |

### Physical Properties

| MODEL 'SL'-series | |
|---|---|
| MATERIAL: | • White-or-red textured, ultraviolet (UV) stabilized, colored impregnated engineered plastic • Exceeds 94V-0 UL flammability rating |
| WEIGHT: | 0.55 Lbs. (0.25 Kg.) |
| LENS TYPE: | LED strobe situated in a rugged Lexan lens |
| DIMENSIONS: | 3.13" (7.95 cm.) { H }; 3.13" (7.95 cm.) { W }; 1.5" (3.81 cm.) { D } |

### Mounting and Wiring Properties

| MODEL 'SL'-series | |
|---|---|
| INDOOR MOUNTING: | • Ceiling-mount applications • Model SLSPBBCR or SLSPBBCW backboxes or to 4" (10.2 cm.) square • 1.5" (cm.) -or- 2.125" (cm.) octagonal • 1.5" (cm.) -or- 2.125" (cm.) deep |
| WIRING TYPE: | #12 – #18, American Wire Gauge (AWG) |

## Details for Ordering

| MODEL | PART NUMBER | APPLIANCE TYPE | UL | ULC | MOUNTING TYPE | STROBE TYPE | FACEPLATE COLOR | FACEPLATE LETTERING |
|---|---|---|---|---|---|---|---|---|
| SLHCR-N | S54329-F12-A1 | Horn | ✓ | ✓ | Ceiling | – None – | RED | – None – |
| SLHCW-N | S54329-F12-A2 | Horn | ✓ | ✓ | Ceiling | – None – | WHITE | – None – |
| SLHSCW-F | S54329-F13-A1 | Horn-Strobe | ✓ | — | Ceiling | Clear | WHITE | FIRE |
| SLHSCR-F | S54329-F13-A2 | Horn-Strobe | ✓ | — | Ceiling | Clear | RED | FIRE |
| SLHSCR-FB | S54329-F14-A1 | Horn-Strobe | — | ✓ | Ceiling | Clear | RED | – Pictogram – |
| SLHSCW-FB | S54329-F14-A2 | Horn-Strobe | — | ✓ | Ceiling | Clear | WHITE | – Pictogram – |
| SLSCW-F | S54329-F15-A1 | Strobe | ✓ | — | Ceiling | Clear | WHITE | FIRE |
| SLSCR-F | S54329-F15-A2 | Strobe | ✓ | — | Ceiling | Clear | RED | FIRE |
| SLSCW-FB | S54329-F16-A1 | Strobe | — | ✓ | Ceiling | Clear | WHITE | – Pictogram – |
| SLSCR-FB | S54329-F16-A2 | Strobe | — | ✓ | Ceiling | Clear | RED | – Pictogram – |
| SLSCW-AL | S54329-F17-A1 | Strobe | ✓ | ✓ | Ceiling | Clear | WHITE | ALERT |
| SLSCR-AL | S54329-F17-A2 | Strobe | ✓ | ✓ | Ceiling | Clear | RED | ALERT |
| SLSCW-ALA | S54329-F18-A1 | Strobe | ✓ | ✓ | Ceiling | Amber | WHITE | ALERT |
| SLSCR-ALA | S54329-F18-A2 | Strobe | ✓ | ✓ | Ceiling | Amber | RED | ALERT |
| SLSCW-NA | S54329-F19-A1 | Strobe | ✓ | ✓ | Ceiling | Amber | WHITE | – None – |
| SLSCR-NA | S54329-F19-A2 | Strobe | ✓ | ✓ | Ceiling | Amber | RED | – None – |
| SLSCW-N | S54329-F20-A1 | Strobe | ✓ | — | Ceiling | Clear | WHITE | – None – |
| SLSCR-N | S54329-F20-A2 | Strobe | ✓ | — | Ceiling | Clear | RED | – None – |
| SLHSCR-A | S54329-F32-A2 | Horn-Strobe | ✓ | ✓ | Ceiling | Clear | RED | AGENT |
| SLHSCW-A | S54329-F35-A2 | Horn-Strobe | ✓ | ✓ | Ceiling | Clear | WHITE | AGENT |
| SLHSCR-AL | S54329-F33-A1 | Horn-Strobe | ✓ | ✓ | Ceiling | Clear | RED | ALERT |
| SLHSCW-AL | S54329-F36-A1 | Horn-Strobe | ✓ | ✓ | Ceiling | Clear | WHITE | ALERT |
| SLHSCR-N | S54329-F33-A2 | Horn-Strobe | ✓ | — | Ceiling | Clear | RED | – None – |
| SLHSCW-N | S54329-F36-A2 | Horn-Strobe | ✓ | — | Ceiling | Clear | WHITE | – None – |
| SLSCW-A | S54329-F65-A1 | Strobe | ✓ | ✓ | Ceiling | Clear | WHITE | AGENT |
| SLSCR-A | S54329-F37-A2 | Strobe | ✓ | ✓ | Ceiling | Clear | RED | AGENT |
| SLSPBBCR | S54329-F55-A1 | Backbox | ✓ | ✓ | Ceiling | – None – | RED | – None – |
| SLSPBBCW | S54329-F55-A2 | Backbox | ✓ | ✓ | Ceiling | – None – | WHITE | – None – |

**SIEMENS**
*Ingenuity for life*

## Architect & Engineer Specifications

☐ Advanced multi-criteria fire detector that has optical thermal and CO sensors

☐ Differentiates between deceptive phenomena and an actual fire (nuisance-alarm avoidance)

☐ Compatible with Siemens Model `H'-series devices on the same loop (with Cerberus PRO modular | FireFinder XLS/V | FC/FV9–series fire-alarm control panels [FACPs])

☐ Provides enhanced detection via forward-and-backward light-scattering technology

☐ Supervisory feature for temperature and CO-concentration-threshold monitoring

☐ Complies with NFPA 76 (Telco standard) as `VEWFD' high-sensitivity detector

☐ UL Listed and FM Approved as a multi-criteria and `VEWFD' fire detector

☐ Low-temperature warning for sprinkler systems, per NFPA 25

☐ UL 268A Listed for direct air-duct use (4,000 FPM)

☐ UL 2075 and NFPA 72 requirements for sensitivity self-monitoring

☐ Remote sensitivity-measurement capability

☐ Tri-color detector-status light-emitting diode (LED) with 360° view

☐ Polarity insensitive via *SureWire*™

☐ Responds to both flaming and smoldering-fire signatures

☐ Supervisory temperature-monitoring feature

☐ Automatic environment compensation

☐ Meets UL, NFPA 72 requirements for sensitivity self-monitoring

☐ Compatible with:
- Model DB-11–series mounting bases
- Model DPU (device programmer / loop tester)

☐ Restriction of Hazardous Substances (RoHS compliant)

☐ UL 268 Listed, ULC Listed; FM (#3230, #3210), CSFM (#7272-0067:0258) Approved

## Product Overview

Model OOHC941 is an advanced, multi-criteria fire | CO detector that incorporates a redundant optical / thermal sensor. Additionally, Model OOHC941 uses a distinctive forward / backward, light-scattering technology that provides high-tech, unparalleled fire detection to the widest range of fire types.

Each Model OOHC941 is programmed as a high-sensitivity detector, thus meeting the requirements of NFPA 76 Standard (*for the Fire Protection of Telecommunications Facilities*) as a Very Early Warning Fire Detector (VEWFD).

Each OOHC941 detector offers a complete and contemporary solution to meet fire and CO life-safety gas-detection specifications. Multi-Criteria Fire / CO Detector detectors can be field programmed for simultaneous and / or independent functionality, depending upon the precise customer and application requirements.

For example, the detector can simultaneously utilize the optical and heat sensors for enhanced fire detection (multi criteria), as well as provide independent outputs for CO gas life-safety and heat detection. Any combination of the sensors is possible.

Each detector is very versatile, and meets the following fire-industry standards:

- Multi-criteria fire detector (UL 268)
- Carbon Monoxide (CO) gas detector (UL 2075)
- Heat detector (UL 521) with five (5) possible field-selectable temperatures; combined with four (4) rate-of-rise options
- Direct, in-duct (plenum) detector (UL 268A)
- Supervisory monitoring for CO levels and temperature ranges
- NFPA 76 (Telco Standard) as VEWFD
- Low-temperature warning signal at 40°F (4.4°C)
  - for sprinkler systems, per NFPA 25 / NFPA 72

Model OOHC941 provides extremely accurate and reliable fire detection with built-in redundancy. It uses advanced, multi-criteria detection technology known as **ASA** (Advanced Signal Analysis), allowing the detector to distinguish non-threatening deceptive phenomena.
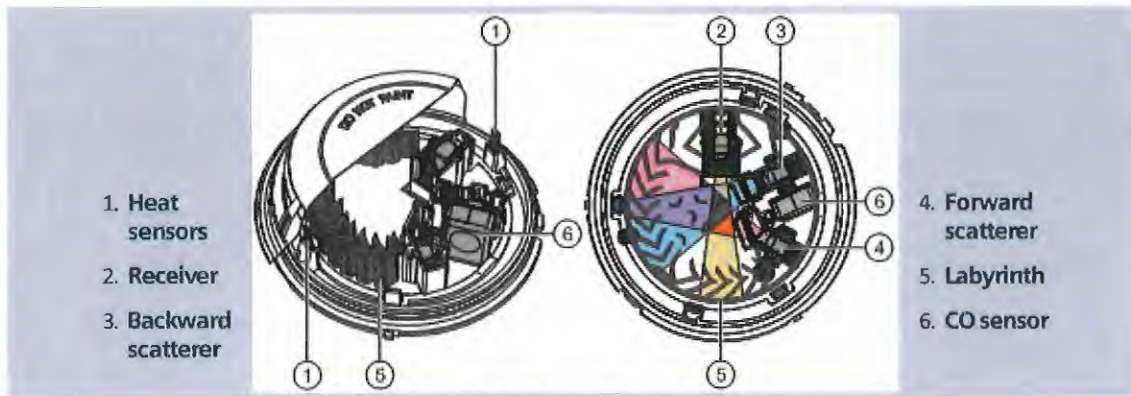
For instance, the signals from the detector's sensors are monitored and processed via the **ASA**–patented algorithm technology, which combines the signals into a neural network to create an intelligent, multi-criteria addressable detector.

**Model OOHC941**
**Multi-Criteria Fire | CO Detector**
[with **ASA***technology*]

1. Heat sensors
2. Receiver
3. Backward scatterer
4. Forward scatterer
5. Labyrinth
6. CO sensor

**Model OOHC941**
**Forward-and-Backward Light-Scattering Technology (with CO sensor)**

## Product Overview – (continued)

The encompassing result is an intelligent detector that provides enhanced detection capability to a wide range of products of combustion – while offering unsurpassed rejection to nuisance-alarm sources, including: dust | steam | aerosols and other deceptive phenomena that could cause false alarms. It is known at Siemens as the no-false-alarm guarantee.

Since Model OOHC941 is a two-wire, addressable device, it is then able to function as a multi-purpose detector – satisfying fire, heat and CO gas detection in a singular, aesthetically pleasing package. Comparable to other multi-functional detectors, Model OOHC941 also serves as a very cost-effective, viable detection solution that saves on product | installation | maintenance costs. Each detector fits into one (1) wall-or-ceiling footprint, and only occupies one (1) address on the signal-line circuit (SLC).

A patented forward-and-backward, light-scattering technology, which is able to distinguish both small and large products of combustion, operates at the core of each Model OOHC941 intelligent, addressable CO-with-**ASA** detector. Since each Model OOHC941 detector provides an eco-friendly solution to legacy ionization detectors, there is subsequently an elimination of any need for having a radioactive source, along with inevitable HAZMAT-disposal requirements. Therefore each detector is capable of detecting both smoldering and flaming fires – all in ecologically efficient manner – and is a valid, RoHS-compliant (Restriction of Hazardous Substances) detection alternative to legacy ionization detectors.

Two (2) thermal sensors, as well as an electromechanical CO sensor, are included, making each Model OOHC941 detector a robust, reliable device suitable for the most challenging applications. Additionally, Model OOHC941 also works as a carbon-monoxide (CO) life-safety gas detector, compliant with NFPA 72 and UL2075.

## Operation

### Forward-and-Backward Light-Scattering Technology

The high-quality, optical-electronic measuring chamber for each Model OOHC941 houses the following components:

> Two (2) optical transmitters
> One (1) optical receiver
> Two (2) thermal sensors
> Two (1) CO sensor

The transmitters illuminate the smoke particles from different angles: one sensor acts as a forward scatterer, and the other sensor works as a backwards scatterer. The scattered light subsequently hits the receiver the receiver (photodiode) and generates a measurable electric signal. The combination of a forward-and-backward scatterer facilitates optimum detection, as well as differentiates between light-and-dark particles / particle size.

This type of detection creates standardized, responsive behavior, therefore optimizing the differentiation between wanted signals and deceptive phenomena. Additionally, the heat sensors make it possible to detect fires without smoke generation.

The CO sensor enables faster detection of fires with incomplete combustion, as well as fires with the development of high levels of CO. The combination of optical, thermal and CO signals optimizes detection reliability.

Additionally, this scenario generates the following advantages:

✓ Early detection of all fire types of fire – whether they generate light-or-dark smoke, or no smoke
✓ The fire detector can be operated at a lower sensitivity level, thus achieving a higher immunity against false alarms that may otherwise be caused by cold aerosols (e.g. —by smoking, electrical welding, etc.)

In the case of an open fire, the smoke sensitivity is heightened by a temperature increase – a detection-reliability level that is comparable to a wide-spectrum smoke detector – that can be achieved and maintained.

### Field-Device Programmer / Test Unit

Model OOHC941 is compatible with the Siemens field-device programmer / test unit (Model DPU), which is a compact, portable and menu-driven accessory for electronically programming and testing these addressable detectors promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods (e.g. – dials and rotary switches), and reduces installation and service costs by electronically programming and testing the detector prior to installation. When set in 'test' mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the detector is operating properly.

Each field-device programmer / test unit operates on AC power or rechargeable batteries, providing flexibility and convenience in the programming / testing of fire-safety equipment from practically any location. Additionally, with the use of a Model DPU unit, there is no longer a cause for concern with any vibration, corrosion and other deteriorating conditions that can accompany the vitality of a mechanical-addressing mechanism.

### Field-selectable application profiles

Model OOHC941 provides 26 user-friendly, field-selectable application profiles, identified with universally known names (e.g. – hotel | Telco | office | parking garage | dormitory | data center, etc.) Refer to installation manual: P/N – A6V10324657 for a complete list and description of application profiles.

Due to generic-name classifications, no cross-reference tables are required as the application name resides in the panel's configuration tool. This user-friendly feature — along with the algorithms provided by **ASA**technology — provides a reliable, field-configurable detector suitable for an array of applications.

### Field-selectable temperature settings

Model OOHC941 provides five (5) field-selectable temperature thresholds, ranging from 135°F to 175°F (57°C to 79°C), with fixed and rate-of-rise options. These ranges provide maximum flexibility to program and to easily adjust the temperature settings that suit multi-application needs with a building or in changing environmental conditions.

Model OOHC941 can be configured to provide a low-temperature warning signal at 40°F (4.4°C). Additionally, Model OOHC941 occupies only one (1) address on the SLC and provides a CO cell end-of-life warning and fault condition meeting NFPA 72 and UL 2075 requirements. This configuration (along with connection to a compatible Cerberus PRO fire-alarm control panel [FACP]) meets NFPA 72 requirements for sprinkler-temperature monitoring, and serves to prevent water freezing inside pipes, relative to water-based suppression systems.

### Ambient supervisory feature for temperature-threshold ranges, relative to Carbon Monoxide (CO)

Another significant characteristic for Model OOHC941 CO detectors lies in the supervision of ambient temperatures. A specified, unique warning point at a customized temperature threshold ranging from 4°F to 120°F (-20°C to 49 °C) can be set manually. This feature is practical for monitoring of machinery; special processes, or for environments where maintaining a temperature is critical as an early-warning supervisory signal.

Optionally, Model OOHC941 also provides supervision of the carbon-monoxide (CO) level selected by the customer. The CO supervision is provided in addition to the normal UL2075 and NFPA 72 alarm levels, and is user-customized for special applications. The range for configuration of each Model OOHC941 device to a compatible Siemens FACP is 30 – 600 parts-per-million (PPM).

### CO Detection

In addition to the multi-criteria functionality, each Model OOHC941 detector provides an independent CO life-safety signal that meets the requirements of NFPA 72 and UL2075, and meets CO-sensitivity limits under UL2034 Standard. Additionally, Model OOHC941 detectors functions from a reliable electrochemical CO cell, transmitting CO concentration on an independent signal separate from the fire-detection signals to the FACP.

This method is especially useful for any building that uses fossil-burning fuel sources, due to the potential of increased CO intoxication risk. Some application examples include: hotel | heating rooms | indoor parking lots and automotive workshops | combustion power plants | chemical labs | production sites.

### Self-monitoring for smoke-sensor sensitivity

Model OOHC941 provides an automatic self-monitoring sensitivity check that complies with the NFPA 72 sensitivity requirements. When connected with a compatible FACP, it provides automatic, dynamic sensitivity verification within the agency-listed-and-approved limits. Besides checking for sensor integrity and automatic environmental compensation, Model OOHC941 provides a display and report of sensitivity in percent-per-foot (or percent-per-meter) at the FACP.

### Profile Overview

Each Model OOHC941 intelligent detector contains one (1) tri-color LED indicator, capable of flashing any one (1) of three (3) distinct colors: GREEN, YELLOW, or RED. During each flash interval, the microprocessor-based detector monitors the following:

- Smoke in its sensing chamber
- Smoke sensitivity is within the range indicated on the nameplate label
- Internal sensors and electronics

Based on the results of the monitoring, the LED indicator flashes the following:

| FLASH COLOR | CONDITION | FLASH INTERVAL [in seconds] |
|---|---|---|
| GREEN*: | Normal supervisory operation. Smoke sensitivity is within rated limits. | 10 |
| YELLOW: | Detector is in trouble and needs replacement. | 4 |
| RED: | Alarm condition | 1 |
| NO FLASH: | Detector is not powered. | — |

\* denotes LED can be turned OFF
  Please follow the corresponding description of the panel used.

A quick visual inspection of the detector can be done at any time since the appropriate color is displayed via the LED indicator found on the detector's faceplate.

## Installation

All Model OOHC941 intelligent, addressable detectors use a surface-mounting base (Model DB-11 or DB-11E), which mounts on a 4-inch (10.2 cm.) octagonal, square or single-gang electrical back box. The base utilizes screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability.

The Model DB-11 detector base can be used with the optional Siemens Model LK-11 detector locking kit, which contains 50 detector locks and an installation tool to prevent unauthorized removal of the detector head. Model DB-11 has decorative plugs to cover the outer mounting-screw holes.

Model OOHC941 may be installed on the same initiating circuit with the Siemens Model `H'-series detectors [when used with Cerberus PRO FACPs] –

- HFP-11, HFPT-11
- Model `XTRI'-series interfaces
- Model `HTRI'-series interfaces
- Model HCP output-control detection devices
- Model `HMS'-series manual stations
- Model `HZM'-series of addressable, conventional zone modules

Each detector, which is shipped with a protective dust cover, consists of the following:

- Dust-resistant photoelectric chamber
- Solid-state, non-mechanical thermal sensor
- CO sensor
- Microprocessor-based electronics with a low-profile plastic housing



1. Model OOHC941 addressable detector
2. Protective dust cover (included)

All Model OOHC941 intelligent detectors are approved for operation with the Underwriters' Laboratories-specified temperature range of 32° to 120° (0° to 49°C) – depending on heat-detector configuration (see: installation manual P/N – A6V10324657 for further details).
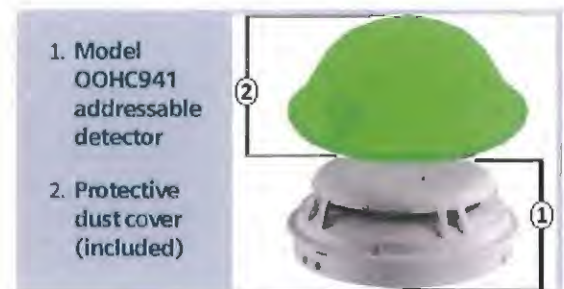
## Mounting Diagrams | Dimensions



Model OOHC941

Model OOHC941 [with Model DB-11 detector base]

Model OOHC941 [with Model DB-11E detector base]
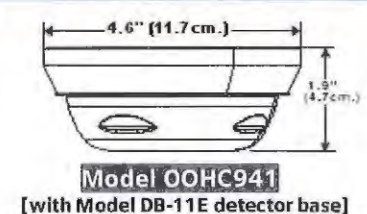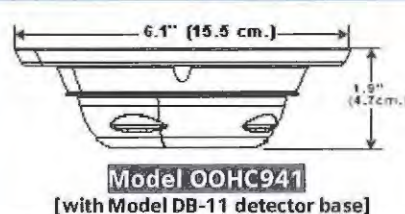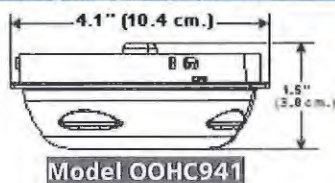
## Application Data

Installation of Model OOHC941 intelligent, addressable detectors requires a two-wire circuit. In many retrofit cases, existing wiring may be used. 'T-tapping' is permitted only for Style 4 (Class B) wiring. Model OOHC941 is polarity insensitive, which can greatly reduce installation and debugging times.

Model OOHC941 detectors can be applied within the maximum 30-feet center spacing (900 sq. ft. areas,) as referenced in NFPA 72. This application guideline is based on ideal conditions – specifically, smooth ceiling surfaces; minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors in close proximity to ventilation or heating and air conditioning outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection-system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens – Fire Safety distributor or sales office whenever you need assistance applying Model OOHC941 in unusual applications. Be sure to follow NFPA guidelines and UL Listed / ULC Listed installation instructions – included with every Siemens – Fire Safety detector – and local codes as for all fire protection equipment.

### Technical Data

| | |
|---|---|
| **OPERATING TEMPERATURE:** | +32° – +120°F (0° – +49°C) |
| **HEAT DETECTOR RANGE:** | +135° – +175°F (+57° – +79°C) |
| **PROGRAMMABLE SUPERVISORY TEMPERATURE WARNING:** | -4° – +120°F (-20° – +49°C) (available with compatible FACPs) |
| **PROGRAMMABLE SUPERVISORY CO-GAS WARNING:** | 30 – 600 ppm (available with compatible FACPs) |
| **DETECTOR SENSITIVITY RANGE:** | UL Listed: 0.77% to 3.82% / ft. NFPA 76 (Telco) <br> VEWFD: 0.2% / feet Pre-alarm; 1.0% / feet Alarm |
| **AIR VELOCITY:** Open Area: Direct-in-duct: | 0 – 4,000 feet-per-minute (fpm) <br> 0 – 4,000 fpm |
| **AIR PRESSURE:** | No effect |
| **APPLICATION PROFILES:** | 26 (field-configurable) |
| **CO CONCENTRATION RESPONSE TIMES** | 70±5 PPM in 60 – 240 min. <br> 150±5 PPM in 10 – 50 min. <br> 400±10 PPM in 4 – 15 min. <br> NOTE: meets UL2075 Standard, and has been tested to the sensitivity limits defined in UL2034 Standard. Additionally complies with NFPA 72 code |
| **RELATIVE HUMIDITY:** | 0 – 95% (non-condensing) |

### Approvals | Standards

| | | |
|---|---|---|
| **FACTORY MUTUAL (FM)** | 3210, 3220 | |
| **CALIFORNIA STATE FIRE MARSHAL (CSFM)** | 7272-0067:0260 | |
| **UNDERWRITERS LABORATORES (UL \| ULC)** | UL268 | UL2034 |
| | UL268A | UL2075 |
| | UL521 | |
| | ULC-S524 | |
| **NATIONAL FIRE PROTECTION AGENCY** | NFPA 25 | |
| | NFPA 72 | |
| | NFPA 76 | |

### Thermal Ratings

**FIELD-SELECTABLE TEMPERATURE PROFILES**

| | |
|---|---|
| **FIXED TEMPERATURE:** | 135°F (57.2°C) |
| | 145°F (62.8°C) |
| | 155°F (68.3°C) |
| | 165°F (73.9°C) |
| | 175°F (79.4°C) |
| **FIXED TEMPERATURE + RATE-OF-RISE: (R-O-R)** | 135°F (57.2°C) + R-o-R, 15°F (-9.4°C) |
| | 175°F (79.4°C) + R-o-R, 15°F (-9.4°C) |
| | 135°F (57.2°C) + R-o-R, 20°F (-6.6°C) |
| | 175°F (79.4°C) + R-o-R, 20°F (-6.6°C) |

**FIELD-SELECTABLE ALARM-THRESHOLD PROFILES**

| | |
|---|---|
| **THRESHOLD:** | 2.5% / feet |
| | 3.0% / feet |
| **THRESHOLD, VERIFIED:** | 2.5% / feet |
| | 3.0% / feet |

### Panel Compatibilities

| MODEL OR TYPE | DATA SHEET | PANEL |
|---|---|---|
| XLS | 6300 | FireFinder (fire) |
| XLSV | 6340 | FireFinder (fire w/ voice) |
| FC901 | 9813 | Cerberus PRO 50-point addressable |
| FC922 | 9815 | Cerberus PRO 252-pt. addressable (fire) |
| FC924 | | Cerberus PRO 504-pt. addressable (fire) |
| FV922 | 9821 | Cerberus PRO 252-point addressable (fire w/ Intelligent Voice Communication [IVC]) |
| FV924 | | 504-pt. addressable (fire w/ Intelligent Voice Communication [IVC]) |

### Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| OOHC941 | S54320-F8-A2 | Multi-Criteria Fire \| CO Detector with ASA*technology*™ |
| DB-11 | 500-094151 | Detector Mounting Base |
| DB-11E | 500-094151E | Detector Base, small |
| DB2-HR | S54370-F12-A1 | Detector Mounting Base with Relay |
| RL-HC | 500-033230 | Remote Alarm Indicator: 4" (10.2 cm) octagon-box mount, red |
| RL-HW | 500-033310 | Remote Alarm Indicator: single-gang box mount, red |
| FDBZ492 | S54319-B22-A1 | Addressable Air-Duct Housing |
| FDBZ492-HR | S54319-B23-A1 | Addressable Air-Duct Detector with Relay |
| LK-11 | 500-695350 | Base Locking Kit |

See: www.STI-USA.com for further details on ordering Model STI-9604

**In Canada order:**

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| DB-11C | 500-095687 | Detector Mounting Base, ULC Listed |

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**Cerberus® PRO**

**SIEMENS**

# SIEMENS
*Ingenuity for life*

# Cerberus® PRO
# Detectors and Peripherals
## Multi-Criteria Fire Detector
## Model OH921

## Architect & Engineer Specifications

- ☐ UL 268 7th Edition Listed
- ☐ Built-in isolation (optional configurable)
- ☐ Each detector is self-testing:
  - complete diagnostics performed every 10 seconds
  - self-monitored for sensitivity within UL Listed limits

- ☐ Listed, approved as a heat detector:
  - Rate-of-Rise Detection: 15°F / min. (8.3°C / min.)
  - Fixed: 135°F (57°C)

- ☐ Superior electromagnetic interference (EMI) and radio-frequency interference (RFI) immunity

- ☐ Field programmable as rate-of-rise or fixed temperature, per `Alarm Source 2' | Standard parameter

- ☐ Tri-color detector-status light-emitting diode (LED) with 360° view

- ☐ Compatible with Model 8720 | DPU (device programmer / loop tester)

- ☐ Polarity insensitive via SureWire™ technology (In non-isolator mode)

- ☐ Functions with Model DB-11–series mounting bases

- ☐ Restriction of Hazardous Substances (RoHS compliant)

- ☐ Automatic environment compensation

- ☐ UL Listed | FM, CSFM Approved
  - UL 268: `Open Area Smoke Detection'
  - UL 268A (Duct) - `Direct-in-Duct' use
  - UL 521: `Open Area Heat Detection'
  - ULC-S531: `Open Area Smoke Detection'
  - ULC-S539: `Open Area Heat Detection'
  - FM 3230: `Open Area Smoke Detection'
  - FM 3210: `Open Area Heat Detection'
  - CSFM | File: 7272-0067:0258

## Product Overview

The Photoelectric | Thermal (Heat) Detector (Model OH921) is an intelligent, addressable multi-criteria detector that incorporates optical and thermal sensors, and uses signals in a neural network to create an intelligent multi-criteria detector. The encompassing result is a detector that provides enhanced detection to a wide range of products of combustion.

Model OH921 is UL 268 7th Ed. listed and incorporates advanced built-in isolation (optionally configurable), which greatly improves reliability, circuit integrity and provides advanced addressable fault finding.

The multi-criteria detector also has state-of-the-art microprocessor circuitry (with error check), as well as detector self-diagnostics and supervision programs that is used on Cerberus PRO Modular | FireFinder XLS/V and on Model FC/FV9-series Cerberus PRO fire-alarm control panels (FACPs).

Additionally, Model OH921 is a plug-in and addressable two-wire multi-criteria detector (with both photoelectric and thermal sensors) that is compatible with Siemens intelligent, addressable systems.

## Operation

Model OH921 utilizes an infrared light emitting diode (IRLED),and infrared light-sensing photodiode. Under normal conditions, light transmitted by the LED is directed away from the photodiode and scattered through the smoke chamber in a controlled pattern.

The smoke chamber is designed to manage light dissipation and extraneous reflections from dust particles or other non-smoke, airborne contaminants in such a way as to maintain stable, consistent detector operation. When smoke enters the detector chamber, light emitted from the IRLED is scattered by the smoke particles, and is received by the photodiode.

Model OH921 also utilizes a modern, accurate and shock-resistant thermistor to sense temperature changes.

The signal processing with detection algorithms allows the detector to first gather smoke and thermal data, and then analyze this information in the detector's `neural network.' By comparing data received with the common characteristics of fires or fire signatures, Model OH921 can compare these signals to those of deceptive phenomena that cause other detectors to trigger a false alarm.
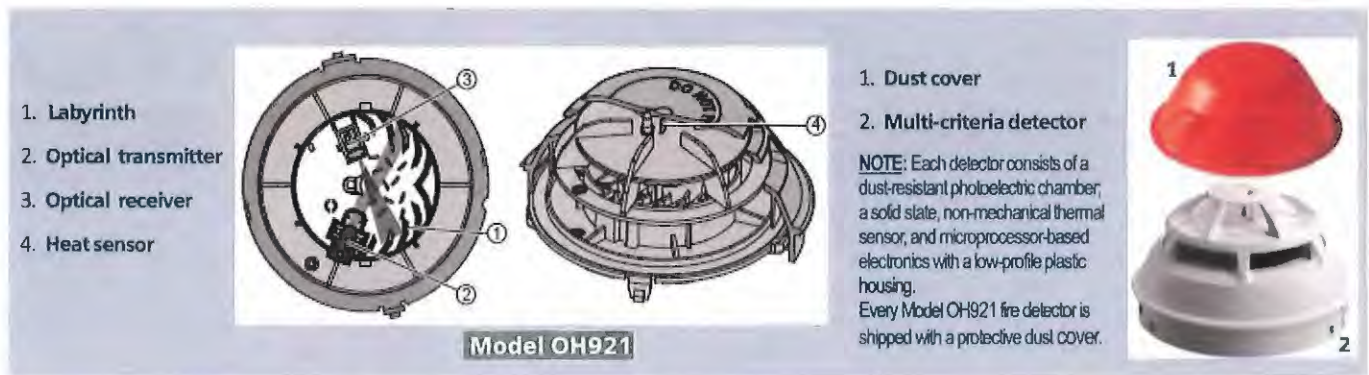
Model OH921
**Multi-Criteria Fire Detector**

Each Model OH921 detector provides three (3) pre-programmed parameter sets that can be selected by the FACP.

1. Labyrinth

2. Optical transmitter

3. Optical receiver

4. Heat sensor

Model OH921

1. Dust cover

2. Multi-criteria detector

NOTE: Each detector consists of a dust-resistant photoelectric chamber, a solid state, non-mechanical thermal sensor, and microprocessor-based electronics with a low-profile plastic housing.
Every Model OH921 fire detector is shipped with a protective dust cover.

## Profile Overview

Model OH921 provides two (2) different alarm sources that can be selected individually (ON or OFF) by the control panel.

Alarm Source 1 (Neural Network) – Combines smoke (heat) with the following field-selectable profiles:

- Standard
- Duct

*Standard:*   This parameter set, which is practically ideal for normal office, hotel-lobby-type applications, is the default setting. This parameter set additional offers improved resistance to false alarms in areas where misleading deceptive sources and helps reduce cooking nuisance alarms (UL 268 7th Ed. Listed)

*Duct:*   When using this detector direct in air duct applications, be sure the detector is set to the parameter "Duct".

Alarm Source 2 (Thermistor) – Heat only; provides the following:

- Static / fixed at 135°F (57°C), default setting
- Rate-of-Rise detection at 15°F / min. (8.3°C / min.)

If the detector is not programmed, Model OH921 will default to a 'standard' profile setting, which allows operation for a normal office-type environment. Model OH921 contains a tri-color LED indicator, capable of flashing any one (1) of three (3) distinct colors: GREEN | YELLOW | RED. During each flash interval, the microprocessor-based detector monitors the following fire-system conditions:

- Smoke in its sensing chamber
- Smoke sensitivity is within the range indicated on the nameplate label
- Internal sensors and electronics

Based on the results of the monitoring, the LED indicator flashes the following:

| FLASH COLOR | CONDITION | FLASH INTERVAL [in seconds] |
|---|---|---|
| GREEN*: | Normal supervisory operation. Smoke sensitivity is within rated limits. | 10 |
| YELLOW: | Detector is in trouble and needs replacement. | 4 |
| RED: | `Alarm' condition | 1 |
| NO FLASH: | Detector is not powered. | — |

* denotes LED can be turned OFF
Please follow the corresponding description of the panel used.

A quick visual inspection is sufficient to indicate the condition of the detector at any time. If more detailed information is required, a printed report can be provided from the respective Cerberus PRO Modular | Model FC9-series | FireFinder XLS/V FACPs that indicates the status and settings assigned to each individual detector.
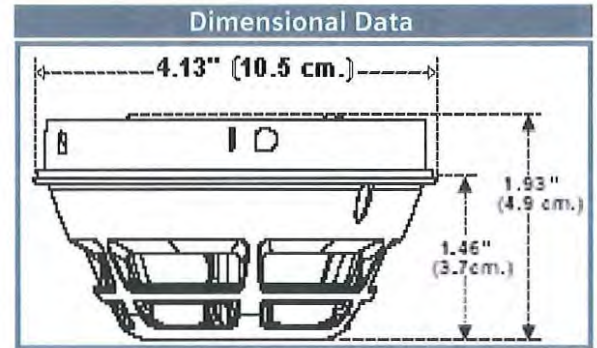
## Installation

All Model OH921 detectors use a surface-mounting base, Model DB-11 or Model DB-11E, which mounts on a 4-inch (10.2 cm.) octagonal, square or single-gang electrical box. The base utilizes screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability.

The Model DB-11 detector base can be used with the optional Siemens Model LK-11 detector locking kit, which contains 50 detector locks and an installation tool to prevent unauthorized removal of the detector head. Model DB-11 has aesthetically conducive plugs to cover the outer mounting-screw holes.

Model OH921 may be installed on the same initiating circuit with the following [when used with Cerberus PRO Modular | Model FC9-series | FireFinder XLS/V FACPs] –

- HFP-11, HFPT-11
- Model `XTRI'-series interfaces
- Model `HTRI'-series interfaces
- Model `HMS'-series manual stations
- Model HCP output-control detection devices
- Model `HZM'-series of addressable, conventional zone modules

All Model OH921 detectors are approved for operation within the UL-specified temperature range of 32°F to 100°F (0 –38°C).



Dimensional Data

4.13" (10.5 cm.)

1.93" (4.9 cm.)

1.46" (3.7cm.)

## Application Data

Installation of Model OH921 intelligent, addressable multi-criteria detectors requires a two-wire circuit. In many retrofit cases, existing wiring may be used. 'T-tapping' is permitted only for Style 4 (Class B) wiring. Model OH921 is polarity insensitive, which can greatly reduce installation and debugging times.

Model OH921 can be applied within the maximum 50-feet (15.24 m.) center spacing (2,500 sq. ft. [232.2 sq. m.]) per Underwriters' Laboratories. This application guide is based on ideal conditions, specifically, smooth-ceiling surfaces, minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors positioned near to heating | ventilation | air-conditioning (HVAC) outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens – Fire Safety distributor or sales office whenever you need assistance applying Model OH921 in unusual applications.

Be sure to follow NFPA guidelines and UL Listed / ULC Listed installation instructions – included with every Siemens – Fire Safety detector – and local codes for all fire-protection equipment.

## Specifications

Model OH921 is a plug-in, (2) two-wire thermal (heat) detector, compatible with Cerberus PRO Modular | Model FC9-series FACPs | FireFinder XLS/V. Each Model OH921 detector has microcomputer-chip technology and highly stable, solid-state electronic circuitry. Model OH921 detectors utilize a modern, accurate and shock-resistant thermistor to sense temperature changes. This electronic-sensing method virtually eliminates thermal lag associated with mechanical temperature-sensing devices, and provides almost instantaneous temperature status to the FACP.

Model OH921 provides seven (7) field-selectable, pre-programmed temperature settings:

- Fixed 135°F (57°C)          • Rate-of-Rise: 15°F / min. (8.3°C)

This feature is compatible with Cerberus PRO Modular systems, as well as with Cerberus PRO FC /FV922 or FC /FV924 and FireFinder XLS/V FACPs.

Model OH921 is compatible with the Siemens field-device programmer / test unit (Model 8720 | DPU), which is a compact, portable and menu-driven accessory for electronically programming and testing these addressable detectors promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods (e.g. – dials and rotary switches), and reduces installation and service costs by electronically programming and testing the detector prior to installation. When set in 'test' mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the detector is operating properly.

Each field-device programmer / test unit operates on AC power or rechargeable batteries, providing flexibility and convenience in the programming / testing of fire-safety equipment from practically any location. Additionally, with the use of a Model DPU unit, there is no longer a cause for concern with any vibration, corrosion and other deteriorating conditions that can accompany the vitality of a mechanical-addressing mechanism.

The encompassing result is an intelligent detector that provides enhanced detection capability to a wide range of products of combustion – while offering unsurpassed rejection to nuisance-alarm sources, including: dust | steam | aerosols and other deceptive phenomena that could cause false alarms.

## Technical Data

| | |
|---|---|
| OPERATING TEMPERATURE: | +32° – +100°F (0° – +38°C) |
| RELATIVE HUMIDITY: | 0 – 95% (non-condensing) |
| AIR PRESSURE: | No effect |
| INPUT VOLTAGE RANGE: | 16VDC – 30VDC |
| 'ALARM' CURRENT, MAX.: | 410µA |
| 'STANDBY' CURRENT, MAX.: | 250µA |
| MAXIMUM SPACING: | 30–ft. (9.144 m.) centers (900 sq. ft. | 83.6 sq. m.), per NFPA 72 and ULC-S524 |
| THERMAL RATING: | • Fixed 135°F (57°C) • Rate-of-Rise: 15°F / min. (8.3°C) at fixed 135°F (57°C) |
| DETECTOR WEIGHT: | 0.317 Lbs. (0.144 kg.) |
| MECHANICAL PROTECTION GUARD: | UL Listed / ULC Listed with STI Guard Model STI-9604 |
| SENSITIVITY RANGE: | • UL268 3.52-4.17% / ft obs. • ULC 3.52-4.27% / ft obs. • UL268A 2.32-2.84% / ft obs. (direct in-duct) |

## Panel Compatibilities

| MODEL OR TYPE | DATA SHEET | PANEL |
|---|---|---|
| XLS | 6300 | FireFinder® (fire-only overview) |
| XLSV | 6340 | FireFinder (fire w/ voice) |
| CERBERUS PRO MODULAR | 8300 | Cerberus PRO Modular (system overview) |
| FC901 | 9813 | Cerberus PRO 50-point addressable |
| FC922 | 9815 | Cerberus PRO 252-pt. addressable (fire) |
| FC924 | 9815 | Cerberus PRO 504-pt. addressable (fire) |
| FV922 | 9821 | Cerberus PRO 252-point addressable (fire w/ Intelligent Voice Communication [IVC]) |
| FV924 | 9821 | 504-pt. addressable (fire w/ Intelligent Voice Communication [IVC]) |

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| OH921 | S54320-F6-A2 | Addressable Multi-Criteria Fire Detector |

### Compatible Devices:

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| ABHW-4B | S54320-F13-A1 | Sounder base with Loop-Power Option |
| ABHW-4S | S54320-F14-A1 | Sounder base for Sleeping Areas |
| ADB-BOX | 500-698360 | Surface Mount Adapter Box for Audible Base |
| DB2-HR | S54370-F12-A1 | Relay base compatible with Siemens standard and advanced detectors |
| DB-11 | 500-094151 | Detector Mounting Base (for Series 11) |
| DB-11E | 500-094151E | Detector Base (small) |
| RL-HW | 500-033310 | Remote Alarm Indicator: Single-gang-box mount, red |
| RL-HC | 500-033230 | Remote Alarm Indicator: 4" (10.2 cm.) octagon-box mount, red |
| LK-11 | 500-695350 | Base Locking Kit (for Series 11) |

See: www.STI-USA.com for further details on ordering Model STI-9604

### In Canada order:

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| DB-11C | 500-095687 | Detector Mounting Base, ULC Listed |

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**SIEMENS**

## Cerberus® PRO

# Cerberus® PRO
# Detectors and Peripherals

## Thermal (Heat) Detector
## Model HI921

## Architect & Engineer Specifications

- ☐ Compatible with Siemens Model `H'-series devices on the same loop (with Cerberus PRO Modular | FireFinder XLS/V | FC9–series fire-alarm control panels)

- ☐ Contains seven (7) field-selectable settings in a temperature range of 135°F – 174°F (57.2°C – 78.9°C)

- ☐ Provides a low-temperature warning of 40°F (4.4°C)

- ☐ Field programmable as rate-of-rise or fixed temperature

- ☐ Tri-color detector-status light-emitting diode (LED) with 360 ° view

- ☐ Compatible with Model 8720 | DPU (device programmer / loop tester)

- ☐ Utilizes advanced, microprocessor-based signal processing

- ☐ Each detector is self-testing:
  - complete diagnostics performed every 10 seconds

- ☐ Polarity insensitive via SureWire™ technology

- ☐ Functions with Model DB-11–series mounting bases

- ☐ Superior electromagnetic interference (EMI) and radio-frequency interference (RFI) immunity

- ☐ Restriction of Hazardous Substances (RoHS compliant)

- ☐ UL 521 Listed, ULC Listed; FM (#3230, #3210), CSFM (#7272-0067:0258) Approved

## Product Overview

The Intelligent Thermal (Heat) Detector (Model HI921) provides an advanced method of detection, address programming supervision – combined with sophisticated FACP communication. Model HI921 uses a state-of-the-art thermistor, microprocessor and advanced signal analysis, providing high reliability and accuracy.

Additionally, Model HI921 is a cost-effective, two-wire / addressable thermal detector that provides a distinctive, advanced feature: seven (7) field-selectable temperature settings specially tailored for application-specific detection needs.

The temperature-range settings for each Model HI921 detector is between 135°F (57°C) – 174°F (79°C) with fixed and rate-of-rise programmability. This variance provides the customer with maximum flexibility to program the temperature settings to suit multiple application needs and changing environmental conditions.

Model HI921 can be configured to provide a low-temperature warning signal at 40°F (4.4°C). This feature – along with a compatible FACP (Cerberus PRO Modular | FireFinder XLS/V or with Cerberus PRO FC/FV922 or FC/FV924 FACPs) – serves as prevention of water freezing in pipes for sprinkler systems, meeting NFPA 72
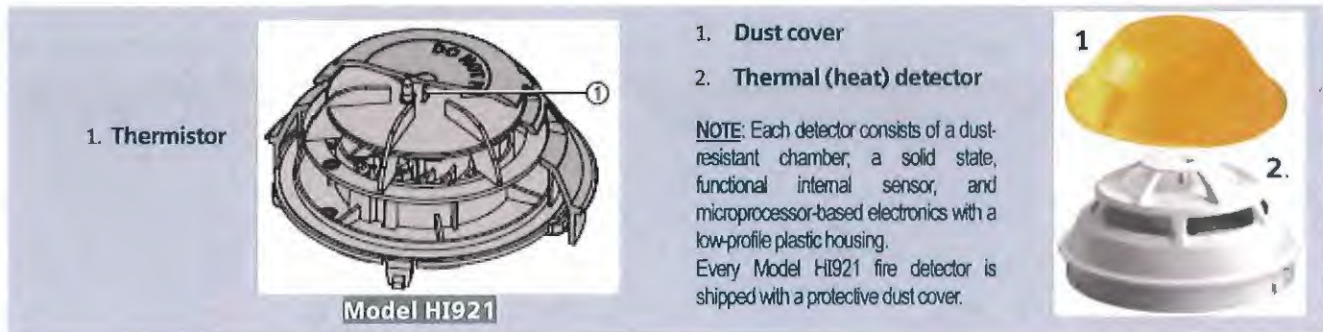
## Operation

Model HI921 also utilizes a modern, accurate and shock-resistant thermistor to sense significant changes in temperature.

Each Model HI921 detector has seven (7) pre-programmed parameter sets that can be selected by the Siemens FACP.



**Model HI921**
**Thermal (Heat) Detector**

1. Thermistor

Model HI921

1. **Dust cover**

2. **Thermal (heat) detector**

NOTE: Each detector consists of a dust-resistant chamber; a solid state, functional internal sensor, and microprocessor-based electronics with a low-profile plastic housing.
Every Model HI921 fire detector is shipped with a protective dust cover.

## Detector Supervision and Testing

Model HI921 contains a tri-color LED indicator, capable of flashing any one (1) of three (3) distinct colors: GREEN | YELLOW | RED. During each flash interval, the microprocessor-based detector monitors the following fire-system conditions:

- Temperatures reaching programmed thresholds
- Internal sensors and electronics are functional

Based on the results of the monitoring, the LED indicator flashes the following:

| FLASH COLOR | CONDITION | FLASH INTERVAL [in seconds] |
|---|---|---|
| GREEN*: | Normal supervisory operation. Temperature has not reached programmed alarm thresholds or set points. | 10 |
| YELLOW: | Detector is not operating at normal capacity and needs replacement. | 4 |
| RED: | `Alarm' condition | 1 |
| NO FLASH: | Detector is not powered. | – |

\* denotes LED can be turned OFF
Please follow the corresponding description of the panel used.

A quick visual inspection is sufficient to indicate the condition of the detector at any time.
If more detailed information is required, a printed report can be provided from the respective Cerberus PRO Modular | FireFinder XLS/V or Model FC9-series FACPs that indicates the status and settings assigned to each detector.

## Installation

All Model HI921 detectors use a surface-mounting base, Model DB2-HR | DB-11 or Model DB-11E, which mounts on a 4-inch (10.2 cm.) octagonal, square or single-gang electrical box. The base utilizes screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability.

The Model DB-11 detector base can be used with the optional Siemens Model LK-11 detector locking kit, which contains 50 detector locks and an installation tool to prevent unauthorized removal of the detector head. Model DB-11 has aesthetically conducive plugs to cover the outer mounting-screw holes.

Model HI921 may be installed on the same initiating circuit with the Siemens Model `H'-series detectors [when used with Cerberus PRO Modular | Model FC9-series | FireFinder XLS/V FACPs] –

- HFP-11, HFPT-11
- Model `XTRI'-series interfaces
- Model `HTRI'-series interfaces
- Model `HMS'-series manual stations
- Model HCP output-control detection devices
- Model `HZM'-series of addressable, conventional zone modules

## Application Data

Installation of Model HI921 intelligent, addressable thermal detectors requires a two-wire circuit. In many retrofit cases, existing wiring may be used. 'T-tapping' is permitted only for Style 4 (Class B) wiring. Model HI921 is polarity insensitive, which can greatly reduce installation and debugging times.

Model HI921 can be applied within the maximum 50-feet (15.24 m.) center spacing (2,500 sq. ft. [232.3 sq. m.]) per Underwriters' Laboratories. This application guide is based on ideal conditions, specifically, smooth-ceiling surfaces, minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors in close proximity to heating | ventilation | air-conditioning (HVAC) outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens – Fire Safety distributor or sales office whenever you need assistance applying Model HI921 in unusual applications.

Be sure to follow NFPA guidelines and UL Listed / ULC Listed installation instructions – included with every Siemens – Fire Safety detector – and local codes for all fire-protection equipment.

## Specifications

Model HI921 is a plug-in, (2) two-wire thermal (heat) detector, compatible with Cerberus PRO Modular | FireFinder XLS/V and Model FC9-series FACPs. Each Model HI921 detector has microcomputer-chip technology and highly stable, solid-state electronic circuitry. Model HI921 detectors utilize a modern, accurate and shock-resistant thermistor to sense temperature changes. This electronic-sensing method virtually eliminates thermal lag associated with mechanical temperature-sensing devices, and provides almost instantaneous temperature status to the FACP.

Model HI921 provides seven (7) field-selectable, pre-programmed temperature settings:

- Fixed 135°F (57°C)
- Fixed 145°F (63°C)
- Fixed 155°F (68°C)
- Fixed 165°F (74°C)
- Fixed 174°F (79°C)

- Rate-of-Rise: 15°F / min. (8.3°C) at fixed 135°F (57°C)
- Rate-of-Rise: 15°F / min. (8.3°C) at fixed 174°F (79°C)

Additionally, the Model HI921 detector has the following optional feature:

- Model HI921 provides indication of potential water freezing for sprinkler systems, via configuration for reporting a low-temperature warning of 40°F (4.4°C).

  This feature is compatible with Cerberus PRO Modular systems, as well as with FireFinder XLS/V and Cerberus PRO FC/FV922 or FC/FV924 FACPs.

## Dimensionsal Data

Model HI921 is compatible with the Siemens field-device programmer / test unit (Model 8720 | DPU), which is a compact, portable and menu-driven accessory for electronically programming and testing these addressable detectors promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods (e.g. – dials and rotary switches), and reduces installation and service costs by electronically programming and testing the detector prior to installation. When set in 'test' mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the detector is operating properly.

Each field-device programmer / test unit operates on AC power or rechargeable batteries, providing flexibility and convenience in the programming / testing of fire-safety equipment from practically any location. Additionally, with the use of a Model DPU unit, there is no longer a cause for concern with any vibration, corrosion and other deteriorating conditions that can accompany the vitality of a mechanical-addressing mechanism.

The encompassing result is an intelligent detector that provides enhanced detection capability to a wide range of products of combustion – while offering unsurpassed rejection to nuisance-alarm sources, including: dust | steam | aerosols and other deceptive phenomena that could cause false alarms.

## Technical Data

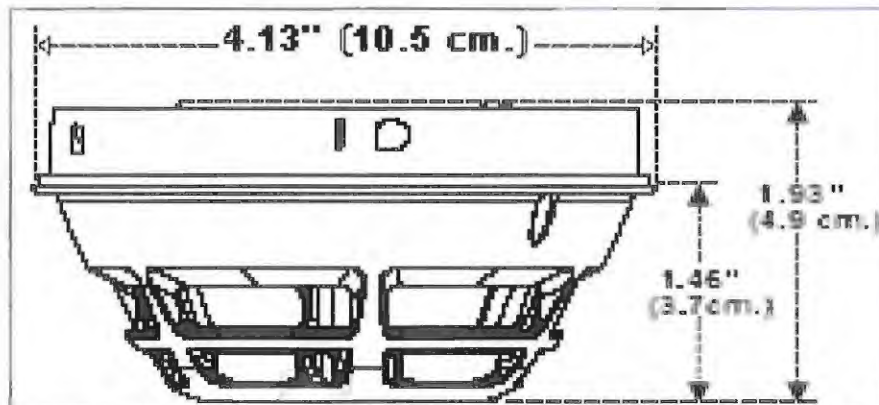| | |
|---|---|
| OPERATING TEMPERATURE: | +32° – +120°F (0° – +49°C) [with 145°F (63°C) | 155°F (68°C) | 165°F (74°C) and 174°F (79°C) alarm-threshold settings] +32° – +100°F, (0° – +38°C) [ with 135°F (57°C) alarm threshold setting] |
| THERMAL RATING: | Model HI921 provides seven (7) field-selectable, pre-programmed temperature settings:<br>• Fixed 135°F (57°C)<br>• Fixed 145°F (63°C)<br>• Fixed 155°F (68°C)<br>• Fixed 165°F (74°C)<br>• Fixed 174°F (79°C)<br><br>• Rate-of-Rise:<br>15°F / min. (8.3°C) at fixed 135°F (57°C)<br>• Rate-of-Rise:<br>15°F / min. (8.3°C) at fixed 174°F (79°C) |
| RELATIVE HUMIDITY: | 0 – 95% (non-condensing) |
| AIR PRESSURE: | No effect |
| INPUT VOLTAGE RANGE: | 16VDC – 30VDC |
| 'ALARM' CURRENT, MAX.: | 410µA |
| 'STANDBY' CURRENT, MAX.: | 250µA |
| MAXIMUM SPACING: | 50-ft. (15.24 m.) centers (2500 sq. ft. | 232.3 sq. m.), per NFPA 72 and ULC-S524 |
| DETECTOR WEIGHT: | 0.317 Lbs. (0.144 kg.) |

## Panel Compatibilities

| MODEL OR TYPE | DATA SHEET | PANEL |
|---|---|---|
| XLS | 6300 | FireFinder® (fire) |
| XLSV | 6340 | FireFinder (fire w/ voice) |
| CERBERUS PRO MODULAR | 8300 | Cerberus PRO Modular (overview) |
| FC901 | 9813 | Cerberus PRO 50-point addressable |
| FC922 | 9815 | Cerberus PRO 252-pt. addressable (fire) |
| FC924 | 9815 | Cerberus PRO 504-pt. addressable (fire) |
| FV922 | 9821 | Cerberus PRO 252-point addressable (fire w/ Intelligent Voice Communication [IVC]) |
| FV924 | 9821 | 504-pt. addressable (fire w/ Intelligent Voice Communication [IVC]) |

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| HI921 | S54320-F5-A2 | Thermal (Heat) Detector |

### Compatible Devices:

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| ABHW-4B | S54320-F13-A1 | Sounder base with Loop-Power Option |
| ABHW-4S | S54320-F14-A1 | Sounder base for Sleeping Areas |
| ADB-BOX | 500-698360 | Surface Mount Adapter Box for Audible Base |
| DB2-HR | S54370-F12-A1 | Relay base compatible with Siemens standard and advanced detectors |
| DB-11 | 500-094151 | Detector Mounting Base |
| DB-11E | 500-094151E | Detector Base, small |
| RL-HC | 500-033230 | Remote Alarm Indicator: 4" (10.2 cm) octagon-box mount, red |
| RL-HW | 500-033310 | Remote Alarm Indicator: single-gang box mount, red |
| LK-11 | 500-695350 | Base Locking Kit |

See: www.STI-USA.com for further details on ordering Model STI-9604

### In Canada order:

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| DB-11C | 500-095687 | Detector Mounting Base, ULC Listed |

Cerberus® PRO

# Cerberus® PRO
## Detectors and Peripherals
Thermal (Heat) Detector
Model HI921

## Architect & Engineer Specifications

☐ Compatible with Siemens Model 'H'-series devices on the same loop (with Cerberus PRO Modular | FireFinder XLS/V | FC9–series fire-alarm control panels)

☐ Contains seven (7) field-selectable settings in a temperature range of 135°F – 174°F (57.2°C – 78.9°C)

☐ Provides a low-temperature warning of 40°F (4.4°C)

☐ Field programmable as rate-of-rise or fixed temperature

☐ Tri-color detector-status light-emitting diode (LED) with 360 ° view

☐ Compatible with Model 8720 | DPU (device programmer / loop tester)

☐ Utilizes advanced, microprocessor-based signal processing

☐ Each detector is self-testing:
  - complete diagnostics performed every 10 seconds

☐ Polarity insensitive via SureWire™ technology

☐ Functions with Model DB-11–series mounting bases

☐ Superior electromagnetic interference (EMI) and radio-frequency interference (RFI) immunity

☐ Restriction of Hazardous Substances (RoHS compliant)

☐ UL 521 Listed, ULC Listed; FM (#3230, #3210), CSFM (#7272-0067:0258) Approved

## Product Overview

The Intelligent Thermal (Heat) Detector (Model HI921) provides an advanced method of detection, address programming supervision – combined with sophisticated FACP communication. Model HI921 uses a state-of-the-art thermistor, microprocessor and advanced signal analysis, providing high reliability and accuracy.

Additionally, Model HI921 is a cost-effective, two-wire / addressable thermal detector that provides a distinctive, advanced feature: seven (7) field-selectable temperature settings specially tailored for application-specific detection needs.

The temperature-range settings for each Model HI921 detector is between 135°F (57°C) – 174°F (79°C) with fixed and rate-of-rise programmability. This variance provides the customer with maximum flexibility to program the temperature settings to suit multiple application needs and changing environmental conditions.

Model HI921 can be configured to provide a low-temperature warning signal at 40°F (4.4°C). This feature – along with a compatible FACP (Cerberus PRO Modular | FireFinder XLS/V or with Cerberus PRO FC/FV922 or FC/FV924 FACPs) -- serves as prevention of water freezing in pipes for sprinkler systems, meeting NFPA 72

## Operation

Model HI921 also utilizes a modern, accurate and shock-resistant thermistor to sense significant changes in temperature.

Each Model HI921 detector has seven (7) pre-programmed parameter sets that can be selected by the Siemens FACP.

**Model HI921**
**Thermal (Heat) Detector**

1. Thermistor

Model HI921

1. **Dust cover**
2. **Thermal (heat) detector**

NOTE: Each detector consists of a dust-resistant chamber, a solid state, functional internal sensor, and microprocessor-based electronics with a low-profile plastic housing.
Every Model HI921 fire detector is shipped with a protective dust cover.

1

2.

## Detector Supervision and Testing

Model HI921 contains a tri-color LED indicator, capable of flashing any one (1) of three (3) distinct colors:  GREEN | YELLOW | RED.   During each flash interval, the microprocessor-based detector monitors the following fire-system conditions:

- Temperatures reaching programmed thresholds
- Internal sensors and electronics are functional

Based on the results of the monitoring, the LED indicator flashes the following:

| FLASH COLOR | CONDITION | FLASH INTERVAL [in seconds] |
|---|---|---|
| GREEN*: | Normal supervisory operation. Temperature has not reached programmed alarm thresholds or set points. | 10 |
| YELLOW: | Detector is not operating at normal capacity and needs replacement. | 4 |
| RED: | `Alarm' condition | 1 |
| NO FLASH: | Detector is not powered. | — |

\* denotes LED can be turned OFF
Please follow the corresponding description of the panel used.

A quick visual inspection is sufficient to indicate the condition of the detector at any time.
If more detailed information is required, a printed report can be provided from the respective Cerberus PRO Modular | FireFinder XLS/V or Model FC9-series FACPs that indicates the status and settings assigned to each detector.

## Installation

All Model HI921 detectors use a surface-mounting base, Model DB2-HR | DB-11 or Model DB-11E, which mounts on a 4-inch (10.2 cm.) octagonal, square or single-gang electrical box.  The base utilizes screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability.

The Model DB-11 detector base can be used with the optional Siemens Model LK-11 detector locking kit, which contains 50 detector locks and an installation tool to prevent unauthorized removal of the detector head.  Model DB-11 has aesthetically conducive plugs to cover the outer mounting-screw holes.

Model HI921 may be installed on the same initiating circuit with the Siemens Model `H'-series detectors
[when used with Cerberus PRO Modular | Model FC9-series | FireFinder XLS/V FACPs] –

- HFP-11, HFPT-11
- Model `XTRI'-series interfaces
- Model `HTRI'-series interfaces
- Model `HMS'-series manual stations
- Model HCP output-control detection devices
- Model `HZM'-series of addressable, conventional zone modules

## Application Data

Installation of Model HI921 intelligent, addressable thermal detectors requires a two-wire circuit. In many retrofit cases, existing wiring may be used. 'T-tapping' is permitted only for Style 4 (Class B) wiring. Model HI921 is polarity insensitive, which can greatly reduce installation and debugging times.

Model HI921 can be applied within the maximum 50-feet (15.24 m.) center spacing (2,500 sq. ft. [232.3 sq. m.]) per Underwriters' Laboratories. This application guide is based on ideal conditions, specifically, smooth-ceiling surfaces, minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors in close proximity to heating | ventilation | air-conditioning (HVAC) outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens – Fire Safety distributor or sales office whenever you need assistance applying Model HI921 in unusual applications.

Be sure to follow NFPA guidelines and UL Listed / ULC Listed installation instructions – included with every Siemens – Fire Safety detector – and local codes for all fire-protection equipment.

## Specifications

Model HI921 is a plug-in, (2) two-wire thermal (heat) detector, compatible with Cerberus PRO Modular | FireFinder XLS/V and Model FC9-series FACPs. Each Model HI921 detector has microcomputer-chip technology and highly stable, solid-state electronic circuitry. Model HI921 detectors utilize a modern, accurate and shock-resistant thermistor to sense temperature changes. This electronic-sensing method virtually eliminates thermal lag associated with mechanical temperature-sensing devices, and provides almost instantaneous temperature status to the FACP.

Model HI921 provides seven (7) field-selectable, pre-programmed temperature settings:

- Fixed 135°F (57°C)
- Fixed 145°F (63°C)
- Fixed 155°F (68°C)
- Fixed 165°F (74°C)
- Fixed 174°F (79°C)

- Rate-of-Rise: 15°F / min. (8.3°C) at fixed 135°F (57°C)
- Rate-of-Rise: 15°F / min. (8.3°C) at fixed 174°F (79°C)

Additionally, the Model HI921 detector has the following optional feature:

- Model HI921 provides indication of potential water freezing for sprinkler systems, via configuration for reporting a low-temperature warning of 40°F (4.4°C).

  This feature is compatible with Cerberus PRO Modular systems, as well as with FireFinder XLS/V and Cerberus PRO FC/FV922 or FC/FV924 FACPs.

## Dimensionsal Data

Model HI921 is compatible with the Siemens field-device programmer / test unit (Model 8720 | DPU), which is a compact, portable and menu-driven accessory for electronically programming and testing these addressable detectors promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods (e.g. – dials and rotary switches), and reduces installation and service costs by electronically programming and testing the detector prior to installation. When set in 'test' mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the detector is operating properly.

Each field-device programmer / test unit operates on AC power or rechargeable batteries, providing flexibility and convenience in the programming / testing of fire-safety equipment from practically any location. Additionally, with the use of a Model DPU unit, there is no longer a cause for concern with any vibration, corrosion and other deteriorating conditions that can accompany the vitality of a mechanical-addressing mechanism.

The encompassing result is an intelligent detector that provides enhanced detection capability to a wide range of products of combustion – while offering unsurpassed rejection to nuisance-alarm sources, including: dust | steam | aerosols and other deceptive phenomena that could cause false alarms.

## Technical Data

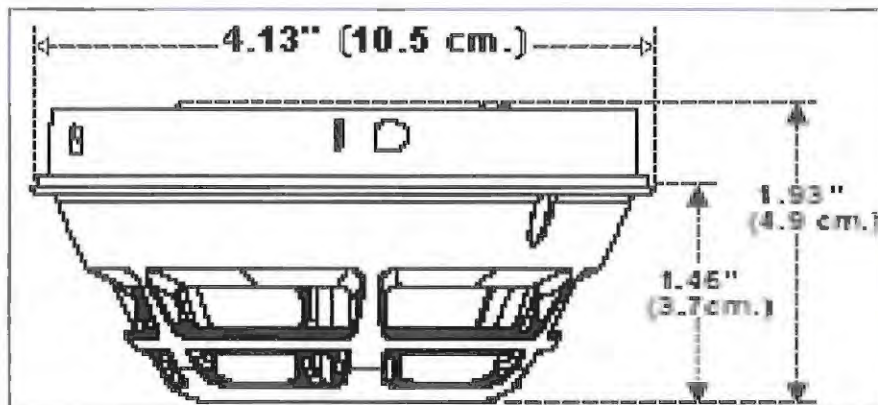| | |
|---|---|
| OPERATING TEMPERATURE: | +32° – +120°F (0° – +49°C) [with 145°F (63°C) | 155°F (68°C) | 165°F (74°C) and 174°F (79°C) alarm-threshold settings] +32° – +100°F, (0° – +38°C) [ with 135°F (57°C) alarm threshold setting] |
| THERMAL RATING: | Model HI921 provides seven (7) field-selectable, pre-programmed temperature settings: • Fixed 135°F (57°C) • Fixed 145°F (63°C) • Fixed 155°F (68°C) • Fixed 165°F (74°C) • Fixed 174°F (79°C) • Rate-of-Rise: 15°F / min. (8.3°C) at fixed 135°F (57°C) • Rate-of-Rise: 15°F / min. (8.3°C) at fixed 174°F (79°C) |
| RELATIVE HUMIDITY: | 0 – 95% (non-condensing) |
| AIR PRESSURE: | No effect |
| INPUT VOLTAGE RANGE: | 16VDC – 30VDC |
| 'ALARM' CURRENT, MAX.: | 410µA |
| 'STANDBY' CURRENT, MAX.: | 250µA |
| MAXIMUM SPACING: | 50-ft. (15.24 m.) centers (2500 sq. ft. | 232.3 sq. m.), per NFPA 72 and ULC-S524 |
| DETECTOR WEIGHT: | 0.317 Lbs. (0.144 kg.) |

## Panel Compatibilities

| MODEL OR TYPE | DATA SHEET | PANEL |
|---|---|---|
| XLS | 6300 | FireFinder® (fire) |
| XLSV | 6340 | FireFinder (fire w/ voice) |
| CERBERUS PRO MODULAR | 8300 | Cerberus PRO Modular (overview) |
| FC901 | 9813 | Cerberus PRO 50-point addressable |
| FC922 | 9815 | Cerberus PRO 252-pt. addressable (fire) |
| FC924 | 9815 | Cerberus PRO 504-pt. addressable (fire) |
| FV922 | 9821 | Cerberus PRO 252-point addressable (fire w/ Intelligent Voice Communication [IVC]) |
| FV924 | 9821 | 504-pt. addressable (fire w/ Intelligent Voice Communication [IVC]) |

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| HI921 | S54320-F5-A2 | Thermal (Heat) Detector |

### Compatible Devices:

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| ABHW-4B | S54320-F13-A1 | Sounder base with Loop-Power Option |
| ABHW-4S | S54320-F14-A1 | Sounder base for Sleeping Areas |
| ADB-BOX | 500-698360 | Surface Mount Adapter Box for Audible Base |
| DB2-HR | S54370-F12-A1 | Relay base compatible with Siemens standard and advanced detectors |
| DB-11 | 500-094151 | Detector Mounting Base |
| DB-11E | 500-094151E | Detector Base, small |
| RL-HC | 500-033230 | Remote Alarm Indicator: 4" (10.2 cm) octagon-box mount, red |
| RL-HW | 500-033310 | Remote Alarm Indicator: single-gang box mount, red |
| LK-11 | 500-695350 | Base Locking Kit |

See: www.STI-USA.com for further details on ordering Model STI-9604

### In Canada order:

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| DB-11C | 500-095687 | Detector Mounting Base, ULC Listed |

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Cerberus® PRO

# Peripheral and Detection Devices
# Initiating Devices

## SIEMENS
*Ingenuity for life*

## Intelligent Device Interface Modules
## Model XTRI-D | XTRI-R | XTRI-S

### Architect & Engineer Specifications

☐ Built-in dual isolators:
- Modern technology supports comprehensive system-and-interface communication
- Allows up to 190 isolators per loop and 30 devices between isolators

☐ Dual input on Model XTRI-D, via a single address

☐ Integral single-pole, double-throw (SPDT) relay on Model XTRI-R:
- Up to 4 Amps.

☐ Meets Class X (Style 7) survivability requirements

☐ Low current draw

☐ Polarity insensitive (in non-isolation mode) via *SureWire™* technology:
- Modern technology supports comprehensive system and interface communication

☐ Multi-color light-emitting diode (LED) indicates system status:
- GREEN | AMBER | RED

☐ Mounts in a 4-inch (10.2 cm.) square, 2–¼" (5.7 cm.) deep single-gang or double-gang back box

☐ Non-obstructive front-end access to programming port and wiring terminals

☐ Device Programmer | Test Unit programs and verifies address, as well as tests device functionality

☐ Restriction of Hazardous Substances (RoHS) compliant

☐ UL864 | UL2572 | UL2017 Listed; CAN/ULC-S527 & CAN/ULC-S576 Listed
- File S24304, Vol. 3

### Product Overview

The Siemens – Fire Safety XTRI-series Intelligent Interface Modules are designed to provide the means of interfacing direct shorting devices to the fire-alarm control panel (FACP) loop circuit. All modules take up one (1) address on the loop.

Each XTRI-series interface module provides built-in, intelligent dual isolation, and meets Class X (Style 7) wiring requirements. Up to 190 isolators per loop and up to 30 devices between isolators (wired in polarity-insensitive mode). Additionally, the devices between isolators can either be 'H'-series or the more contemporary 'X'-series detection devices.

### Specifications

The Siemens – Fire Safety XTRI-series Intelligent Interface Modules are available in three (3) individual types:

➤ One (1) Dual-Input: XTRI-D
➤ Two (2) Single-Inputs: XTRI-R (with relay) | XTRI-S
  - The single-input versions are each designed to monitor a normally open (N.O) or (N.C) normally closed dry contact

XTRI-D | XTRI-R | XTRI-S incorporates configurable, built-in dual isolators. Additionally, an XTRI-series interface module has Class X (Style 7) survivability requirements for shorts while providing reliable alarm communication to the Siemens FACP. The isolation feature found on the XTRI-series Intelligent Interface Modules gives information as to the location of the fault. When a short occurs, the panel can identify the fault automatically, and the module recognizes the short location (in front of the device or behind the device).

Overall, the built-in isolators improve the diagnostics and location of the problem, including a short.

The modules are configurable by a Siemens compatible FACP (or panels) in an isolator (polarity sensitive) or non-isolator (polarity insensitive) mode. When a XTRI-series interface module is configured as an isolator, that module has the capacity of functioning as both an in/out device, as well as an isolator.

Advanced troubleshooting is provided by compatible panels by identifying when a XTRI-series interface module is configured as an isolator, but is wired incorrectly in a polarity-insensitive mode.

Each Model XTRI-series device has a multi-color LED that flashes when GREEN operating in Normal mode; AMBER if the unit is in a 'Trouble' condition, and RED to indicate a change of status.

#### Model XTRI-S
This single-input interface module can only monitor and report the status of a N.O. or N.C. contact.

Model
XTRI-D | XTRI-R | XTRI-S
**Intelligent Device Interface Module**

1. 4" (10.2 cm.) square box 2– 1/8" (5.4 cm.) back box

2. 3.5" (8.9 cm.) double -gang back box

3. 5" (12.7 cm.) square switch plate, (supplied)

**Model XTRI-D | XTRI-R | XTRI-S**
**Intelligent Device Interface Module**
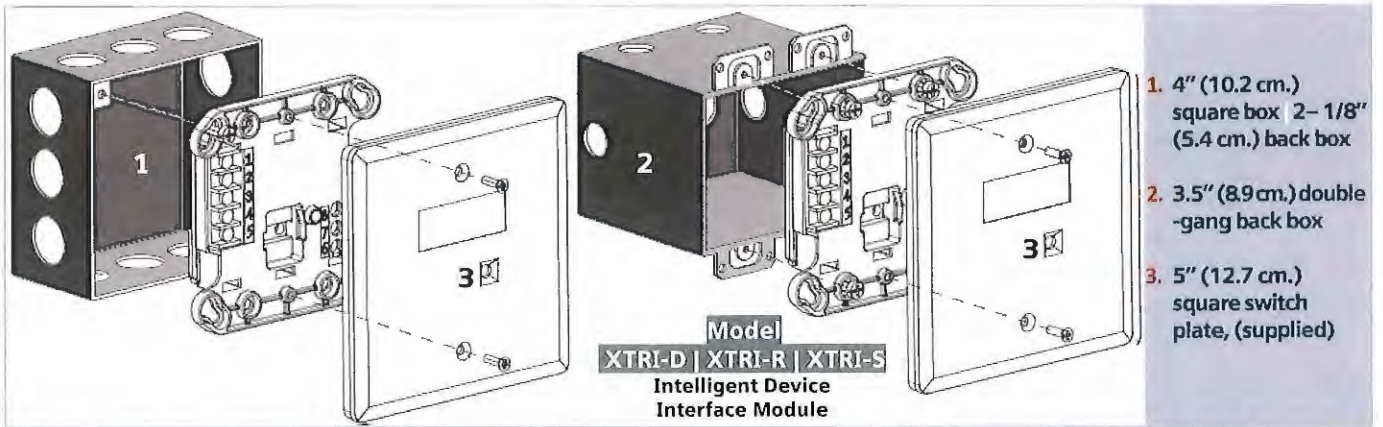
## Model XTRI-R

Through the use of an addressable 'Form C' relay, the Model XTRI-R relay and contact device input are controlled at the same address. The relay and input contact can be controlled as a separate function from a Siemens compatible FACP. The relay is typically used where control or shunting of external equipment is required.

## Model XTRI-D

Model XTRI-D is a dual-input module that is designed to supervise and monitor two (2) sets of dry contacts. Model XTRI-D only requires one (1) address, but responds independently to each input. Model XTRI-D is ideal for monitoring a water-flow switch and its respective valve tamper switch.



PROGRAMMING HOLES

SLOT FOR LOCATING TAB

THERE IS NO DIRECTIVITY DESIGN FOR DPU CONNECTION. IT IS ALLOWED TO INSERT THE PLUG AT EITHER DIRECTION

PLUG FROM THE DPU PROGRAMMER/ TESTER
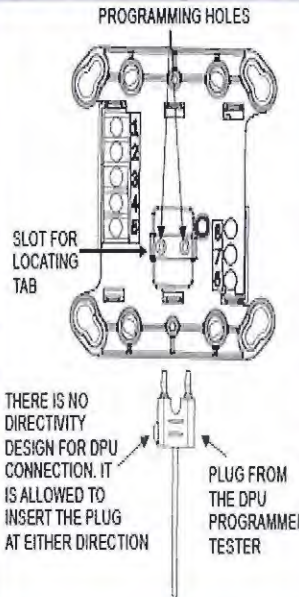
NOTES: Each interface module mounts directly to a user-supplied switchbox. The electrical boxes, seen above, are supplied-by-others (BO).

Models XTRI-D, XTRI-R and XTRI-S mount directly onto a 4-inch (10.2 cm.) square, 2 ¼" (5.7 cm.)–deep box back box, or to a user-supplied double-gang 3 ½" deep back box.

A 5" (12.7 cm.) square, off-white faceplate is included in each shipment of a Siemens Model XTRI-series module.

## Operation

### Field-Device Programmer / Test Unit

Siemens – Fire Safety innovative technology allows Model XTRI-series intelligent interface modules to be programmed via the Siemens field-device programmer / test unit (Model DPU), which is a compact, portable and menu-driven accessory for electronically programming and testing Siemens peripheral modules and devices promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

Vibration, corrosion and other conditions that deteriorate mechanical-addressing mechanisms are no longer a cause for concern. Model XTRI-series interface module is connected to Model DPU with the programming cable provided with the tester.

NOTE: Since the XTRI-series of interface modules are advanced initiating devices, the latest Model DPU firmware update is required.

Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods (e.g. – dials and rotary switches), and reduces installation and service costs by electronically programming and testing the module prior to installation. When set in 'test' mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the module is operating properly.

Each field-device programmer / test unit operates on AC power or rechargeable batteries, providing flexibility and convenience in the programming / testing of fire-safety equipment from practically any location. Additionally, with the use of a Model DPU unit, there is no longer a cause for concern with any vibration, corrosion and other deteriorating conditions that can accompany the vitality of a mechanical-addressing mechanism.

## Compatibilities

Siemens 'X' modules may be used along with Model 'H'-series intelligent detectors; Model 'HMS'-series addressable manual stations, or any other 'H'-series addressable intelligent module (e.g. Model HZM or Model HCP). Additionally the X-series modules are compatible with all Desigo and Cerberus Pro detectors and peripherals o the same circuit.

Interspersing 'X' & 'H'-series devices on the same loop is mostly permitted, but there are exceptions: Models HLIM (isolation module) and SBGA-34 (audible base) cannot be used with 'X' devices on the same loop.

## Temperature and Humidity Range

Models XTRI-D | XTRI-R | XTRI-S intelligent interface modules are UL Listed | ULC Listed. Environmental operating conditions for each interface module is 32°F (0°C) to 120°F (49°C) with a relative humidity of no greater than 95%, non-condensing.

### Electrical Ratings

| | |
|---|---|
| OPERATING VOLTAGE RANGE: | 13VDC – 32VDC |
| RELATIVE HUMIDITY: | 0 – 95% (non-condensing) |
| 'ACTIVE' OR 'STANDBY' CURRENT, MAX.: | 500µA |
| LINE SIZES AMERICAN WIRE GAUGE (AWG) | 14 AWG, max. 18 AWG, min. |
| CURRENT DRAW, MAX | AVG. | XTRI-S:  650µA |
| | XTRI-R:  750µA |
| | XTRI-D:  950µA |

### Electrical Ratings

| FLASH COLOR | CONDITION | FLASH INTERVALS [in seconds] |
|---|---|---|
| GREEN*: | Normal supervisory operation. | 10 |
| YELLOW: | Device is in trouble and needs to be replaced. | 4 |
| RED: | Locate | 'Alarm' | 1 |
| | Output Device (XTRI-R only) | 10 |
| NO FLASH: | Power is not being received. Replacement is needed. | — |

| RELAY RATINGS: (for Model XTRI-R) | |
|---|---|
| RESISTIVE: | 4 Amps | 125 VAC |
| | 4 Amps | 30 VDC |
| INDUCTIVE: | 3.5A, 120 VAC (0.6 pF) |
| | 3.0A, 30 VDC (0.6 pF) |
| | 2.0A, 120 VAC (0.4 pF) |
| | 2.0A, 120 VAC (0.35 pF) |
| | 2.0A, 30 VDC (0.35 pF) |

NOTE: Refer to installation manual: **P/N – A6V101055479** to ensure Model XTRI-D | XTRI-R | XTRI-S compatibility with the Siemens FACPs intended for use in the given

### Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| XTRI-S | S54370-B3-A1 | Single Input Module |
| XTRI-R | S54370-B1-A1 | Single Input Module (with relay) |
| XTRI-D | S54370-B2-A1 | Dual Input Module |
| DPU | 500-033260 | Device Programmer / Test Unit |

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NOTICE – The information contained in this data-sheet document is intended only as a summary, and is subject to change without notice.
The product(s) described here has/have a specific instruction sheet(s) that cover various technical, limitation and liability information.

Copies of install-type, instruction sheets – as well as the *General Product Warning and Limitations* document, which also contains important data, are provided with the product, and are available from the Manufacturer.

Data contained in the aforesaid type of documentation should be consulted with a fire-safety professional before specifying or using the product.

Any further questions or assistance concerning particular problems that might arise, relative to the proper functioning of the equipment, please contact the Manufacturer.

**SIEMENS**

Siemens Industry, Inc.
Smart Infrastructure - Building Products
8 Fernwood Road • Florham Park, NJ 07932
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April 2019 –
Rev. 1

# Specialized Devices
## Air-Duct Housings (FDBZ Series)
### Models FDBZ492, FDBZ492-HR, FDBZ492-R and FDBZ492-RP {with FDBZ-WT and FDBZ492-RTL}

## ARCHITECT AND ENGINEER SPECIFICATIONS

- Four (4) models available
  - Addressable and conventional with and without relays
- Compatible with Siemens – Fire Safety conventional and addressable fire-alarm control panels (FACPs)
- Magnet test feature with the Model OP121 conventional detector
- Design for air-velocity range of 100 to 4,000 feet-per-minute (fpm)
- Robust, compatible conventional remote indicator test switch that incorporates tri-color light-emitting diode (LED)
- Clear housing cover with smoke test port on cover for quick identification of detector type
  - Removable via four (4) captive-thumb screws (no tools required)
  - Includes a smoke / aerosol detector test port
- Optional NEMA 4X-reinforced, stainless-steel and watertight enclosure available, Model FDBZ-WT
- No tools required for cover removal, sampling and exhaust-tube installations
- *Trouble*-event activation upon front-cover removal
- *Alarm* LED visible from front

Remote alarm indicator
[FDBZ492-RTL]

FDBZ-series of air-duct housings
[FDBZ492, FDBZ492-HR, FDBZ492-R & FDBZ492-RP]

Watertight housing
[FDBZ-WT]

- Self-contained model available with 'on-board' power supply for conventional detectors
- Expanded temperature range
- Relay models available
- ®UL268A Listed, ®ULC-S529 Listed; FM (#3010), CSFM (#3240-0067:0265) Approved

## Product Overview

The Siemens — Fire Safety Model 'FDBZ'-series of air-duct-detector housings are designed for use with Siemens Model 'H'-series, Cerberus PRO-series and Model OP121 detectors. (see: Details for Ordering for a complete list of compatible devices).

Designed for installation directly to heating, ventilating and air-conditioning (HVAC) duct systems, the Model 'FDBZ'-series of duct housings complies with National Fire Protection Association Standard (NFPA) No.'s 72 and 90A, and is Underwriters' Laboratories Listed.

When equipped, the air-duct detector housing will signal the presence of smoke being carried through the duct system. Air-duct detectors are not intended to be substituted for open-area detection.

Notes: Most conventional time-control equipment guarantee only one (1) detector per zone when the detector's operated relay function is critical. The connection of a remote lamp and a remote relay –per detector – is allowed. Refer to the installation manual of the respective conventional FACP.

Notes - (cont.'d): With either the Cerberus PRO series or FireFinder° XLS series of FACPs, up to 252-addressable detectors with relays per circuit may be used. The connection of an intelligent remote lamp (ILED) and a remote relay is allowed for each detector simultaneously.

## Specifications

The Model 'FDBZ'-series of air-duct housings are uniquely designed to use with the photoelectric detector. Sensitivity of Models PE-11, PE-11C, OP121, and 8854 conventional detectors can be verified for calibration via LED visual status or a Model RSAW-11, Model RSAC-11 or FDBZ492-RTL multi-color remote lamp. A green flash indicates the detector has passed its self test. Amber indicates a *Trouble* condition, and red indicates an *Alarm* event.

Sensitivity for Models FP-11, HFP-11, SFP-11, HFPO-11, SFPO-11, OP921, OOH941, OOHC941, 8710, and 8713 intelligent detectors is verified from the multi-color LED of the respective detector, or its sensitivity reading may be printed by command from the corresponding FACP to an optional printer.

# Cerberus® PRO

Fire Safety Products

# 9906

Model 'FDBZ' Series of Air-Duct Housings and Detectors

**SIEMENS**

## Specifications — (continued)

The remote alarm indicator (Model FDBZ492-RTL) allows for manual testing via a key-switch for conventional and addressable detectors, as well as the conventional and addressable air-duct housing with relay. Model FDBZ492-RTL, which mounts remotely from the conventional and addressable air-duct housing, allows for manual relay-output control. The duct-detector remote indicator key-switch also indicates the current state of the detector.

The watertight housing (Model FDBZ-WT), which allows the air-duct detector housing to be installed inside the separate NEMA 4X enclosure, is for installations for either an outdoor area or in environments where excessive moisture is prevalent.

Each detector unit employs a cross-sectional sampling principle of operation. Inlet sampling tubes are available in four (4) lengths (see: Sampling Tube Selection Table). Outlet sampling tubes are one (1) common length and draw. A continuous, cross-sectional sample of air moves through the duct. Stratification or skin affect phenomenon that occurs in the duct can prevent smoke (especially in large ducts) from reaching a spot-type detector.

In addition, the unique design of the sampling chamber insures uniform sensitivity in air velocities, ranging from a low of 100 fpm to as high as 4,000 fpm. Each air-duct housing comes with three (3) wiring entry ports:

- Two (2) 3/4" conduit knockouts
- One (1) 1/2" conduit opening

The inlet sampling tube length is determined by the width of the air duct being protected. The inlet tube — greater than and nearest to the duct width — should be used (see: Sampling Tube Selection Table). The inlet tube can then be trimmed at the job site to the exact width of the duct. The outlet sampling tube for all ducts — irrespective of width — has a fixed length of approximately 5.5 inches (14cm.), and is supplied with the air-duct housing.

Note: When the use of a remote relay is required, order Model FDBZ492-R for conventional systems; Model FDBZ492-HR for addressable systems. When required, a separate watertight enclosure (Model FDBZ-WT), which is designed to contain the air-duct housings is available.

> (For full details, refer to installation instructions for the respective air-duct housing.)

Note: When a self-contained duct detector with power supply is required, order Model FDBZ492-RP.

> (For full details, refer to installation instructions part number A6V10330327.)

### Sampling Tube Selection Table

| Duct Width | Sampling Tube (Model No.) |
|---|---|
| For duct widths 6" to 1' | ST-10 |
| For duct widths 1' to 3' | ST-25 |
| For duct widths 3' to 5' (requires support) | ST-50 |
| For duct widths 5' to 10' (requires support) | ST-100 |

Maintenance of the detector is easily accomplished via the removal of the duct-housing sampling chamber cover. The detector, which plugs into the housing, is easily removed for cleaning or replacing by a trained technician.

All that is necessary for installation of the air-duct detector is the cutting of three (3) small holes for the Sampling Tube installation (template included), and the drilling of two (2) holes for mounting the air-duct housing. The unit is then easily mounted in place, and connection made to the existing wires or terminals — if optional accessories are utilized. No mechanical tools are required for removing the cover or connecting the sampling and exhaust tubes to an air-duct housing.

Models ST-50 and ST-100 require support. However, Model ST-100 is shipped in two (2) 5-ft. (152 cm.) pieces with a coupling for field assembly.

## Technical Data

| | |
|---|---|
| Operating Temperature Ranges: | +32°F (0°C) to 120°F (49°C) |
| Sampling Tube Pressure Range of Differences: | > 0.01 inches; < 1.2 inches of water column |
| Relative Humidity: | 0 – 95%; non-condensing |
| Air Pressure / Altitude Range: | No effect / No limitations |
| Air-Duct Velocity: | 100 – 4,000 ft. / min (0.51– 20m / sec) |
| Dimensions: | { H -x- W -x- D } |

- Rectangular: 14.38" -x- 5" -x- 2.5" (37 cm. -x- 12.7 cm. -x- 6.36 cm.)
- Square: 7.75" -x- 9" -x- 2.5" (19.7 cm. -x- 22.9 cm. -x- 6.36 cm.)

| | |
|---|---|
| Detector Weight: | 1.8 Lbs. (0.82 Kg.) |

## Operation

Based on the monitoring results, the LED indicator flashes the following colors based on the following conditions:

| Flash Color | Condition | Flash Interval (in seconds) |
|---|---|---|
| Green*: | Normal supervisory operation. Smoke sensitivity is within rated limits. | 10 |
| Yellow: | Detector is in *Trouble* condition, and needs either repair or replacement. | 4 |
| Red: | *Alarm* condition. | 1 |
| No Flash: | Detector is not powered. | — — |

\* LED can be turned OFF.
  Please follow the corresponding description of the panel used.

## Products included with the air-duct housing:

- (1) short-return (outlet) tube
- (1) stopper
- (2) #12 + 3/4" sheet-metal screws
- (1) mounting template

Note: Detector and sampling tube to be purchased separately. Minimum hardware required is: one (1) air-duct housing assembly; one (1) sampling tube and one (1) detector.

## Details for Ordering

| Model | Part Number | Description |
|---|---|---|
| FDBZ492 | S54319-B22-A1 | A two-wire addressable or conventional duct detector (without relays) designed for direct use on heating, ventilating and air-conditioning (HVAC) air-duct systems. When equipped, the air-duct detector housing will signal the presence of smoke being carried through the duct system. <br> For use with the following Models: <br> − 8710  − 8713   − OOH941  − OP121 <br> − 8854  − HFPO-11  − OOHC941 − PE-11 <br> − FP-11  − HFP-11   − PE-11C  − SFP-11 <br> − SFPO-11 |
| FDBZ492-HR | S54319-B23-A1 | A two-wire addressable duct detector (with relays) designed for direct use to HVAC air-duct systems and works with the Remote Test Switch (FDBZ492-RTL). This part has a programmable relay base, and when equipped, the addressable air-duct detector housing will signal the presence of smoke being carried through the duct system. <br> For use with the following Models: <br> − 8710      − FP-11 <br> − 8713      − HFP-11 <br> − OOH941    − HFPO-11 <br> − OOHC941   − OP921 <br> − SFP-11    − SFPO-11 |
| FDBZ492-R | S54319-B24-A1 | A two-wire conventional duct detector with relays designed for direct use on HVAC air-duct systems. This detector has a relay base, and when equipped with conventional air-duct housing, will signal the presence of smoke being carried through the duct system. <br> For use with the following Models: <br> − PE-11  − PE-11C <br> − OP121  − 8854 |
| FDBZ492-RP | S54319-B25-A1 | A four-wire conventional duct detector with relays and a built-in power supply. Housing is designed for direct use to HVAC air-duct systems. It has a relay base with a built-in power source. When equipped with conventional air-duct housing, this duct detector will signal the presence of smoke being carried through the duct system. <br> For use with the following Models: <br> − PE-11      − PE-11C <br> − OP121 |
| FDBZ492-RTL | S54319-S27-A1 | Device is used for manual testing via a key-switch for duct-housing Models FDBZ492-R, FDBZ492-RP and FDBZ492-HR. Device mounts remotely from the conventional and addressable air-duct housing, allowing for manual relay-output control. The duct-detector remote key-switch also indicates the current state of the detector. <br> For use with the following Models: <br> • FDBZ492-HR • FDBZ492-R • FDBZ492-RP |
| FDBZ-WT | S54319-B26-A1 | An optional, separate watertight NEMA 4X enclosure (Model FDBZ-WT) that provides added watertight protection for any of the Model FDBZ492-series duct housings. The duct housing fits into the separate 4X enclosure. This part allows the air-duct detector housing to be installed in the separate enclosure, and can be used in either an outdoor area or in environments where excessive moisture is prevalent. <br> For use with the following Models: <br> − FDBZ492       − FDBZ492-R <br> − FDBZ492-HR    − FDBZ492-RP |
| ST-10 | 500-649710 | Sampling tube for Ducts 6" to 1' |
| ST-25 | 500-649711 | Sampling tube for Ducts over 1' to 3' |
| ST-50 | 500-649712 | Sampling tube for Ducts 3" to 5' |
| ST-100 | 500-649713 | Sampling tube for Ducts 5' to 10' |

S  Cerberus® PRO

Siemens Industry, Inc. — Building Technologies Div.
8 Fernwood Road • Florham Park, NJ 07932
Tel: (973) 593-2600 • Fax: (908) 547-6877
Web: www.USA.Siemens.com/Cerberus-PRO

# Specialized Detection Devices
## F5000 Reflective Optical Beam Smoke Detector

### ———————ARCHITECT AND ENGINEER SPECIFICATIONS———————

- **Range of 26.25 ft. to 330 ft.**
  (8.0 to 101 meters)
- **Modular design**
- **Easy-fit mounting system**
- **Ground-level system controller**
- **LASER-assisted prism mounting**
- *AutOptimise* **beam alignment**
- **Electronic-obscuration test**
- **Remote display and control unit with liquid-crystal display (LCD) backlight**
- **Contamination compensation**
- **Building-shift compensation**
- **Separate** *alarm* **and** *trouble* **contacts**
- **Password-protected settings**

Model
F5000

Model
5000-017

- **Current monitoring for gimbals motor position**
- **User feedback of operating parameters**
- **®UL268 Listed;**
  **CSFM (#7260-1508:0104) Approved**

## Product Overview

The Reflective Beam Detector System (Model F5000) from Siemens — Fire Safety is an auto-aligning, infrared-beam smoke detector. Once the detector head is installed, an integral LASER can be activated — via the easy-fit mounting system — that is aligned along the optical path of the infrared beam. The LASER allows the reflective prism to be quickly located.

The *AutOptimise* beam alignment system then takes over, automatically steering and maintaining the beam in the optimum position for reliable performance. The signal that is generated in the transmitter element and reflected by the prism back to the receiver element is analyzed for the presence of smoke. The internal microprocessor determines an *Alarm* condition when a pre-determined level is reached.

The Projected Beam Smoke Detector is designed to be mounted in a manner that allows the beam to project between 1ft. (0.3m.) and 2ft. (0.61m.) below, as well as project parallel to the ceiling.

Lateral detection may be up to 30ft. (9.14m.) on either side of the beam, providing a maximum total coverage area of up to 19,800 square feet (60 ft. [18.3m.] –x– 330 ft. [101m.]) Model F5000 can interface with Siemens 50-point, 252-point and 504-point addressable systems, as well as FireFinder® XLS/XLSV Fire-Alarm Control Panels (FACPs), via the use of the following Siemens modules: Models FDCIO422, HTRI, or HZM.

## Specifications

The projected beam-type smoke detector is a 4-wire, 24 VDC device to be used with a ®UL Listed and separately supplied, (4) four-wire FACP. Model F5000 receives operating power by any ®UL category 'UTRZ' power supply, such as the Siemens PAD-series NAC extenders. Model F5000 is ®UL268 Listed, and consists of an integrated transmitter, receiver and remote control unit. Model F5000 operates between 26.25 ft. to 330 ft. (8.0 to 101 meters).

Each unit includes a wall-mount remote display and controller with LCD backlight.

## Specifications — (continued)

The beam detector features automatic gain control, which will compensate for gradual signal deterioration from dirt accumulation on the lenses of Model F5000.

Model F5000 includes the *AutoOptimise* Beam Alignment feature to ensure maximum-signal availability, and is capable to compensate for any shift of a building's structure.

A ®UL Listed, internal-obscuration test must be utilized for testing Model F5000. The Reflective Optical Beam Smoke Detector must be a Fire Fighting Enterprises Fireray 5000, Model F5000.

## Temperature Range

Model F5000 is able to operate between -4°F and 131°F (-20°C and 55°C).

## Technical Data
### Physical Properties

| Housing: | Flame Retardant ABS |
|---|---|
| Finish: | Light Grey / Black |
| Weight: | Head & Controller 3.24 Lbs (1.47 kg) |
| Dimensions: [Head] | 5.28" [H] —x— 5.28" [L] —x— 5.16" [W] (13.4 cm. [H] —x— 13.4 cm. [L] —x— 13.1cm [W]) |
| Dimensions: [Controller] | 3.43" [H] —x— 9.06" [L] —x— 7.95" [W] (8.71 cm. [H] —x— 23.0 cm. [L] —x— 20.2 cm. [W]) |
| Dimensions: [Prism] | 0.37" [H] —x— 4.13" [L] —x— 3.94" [W] (0.94 cm. [H] —x— 10.5 cm. [L] —x— 10 cm [W]) |

## Electrical Ratings

| Primary Input Power: | 14 to 36 VDC |
|---|---|
| Standby Current Draw: | **Low Current Mode**: 5 - 8.5 mA @ 24VDC (depending on the quantity of detector heads used) |
| | **High Current Mode**: 37mA @ 24VDC |
| Alarm Current: | 5 - 8.5 mA @ 24VDC (depending on the quantity of detector heads used) |
| Relay Contacts: | 1A @ 30 VDC, resistive |
| Reset Time: | :05 seconds, maximum |
| Start-Up Time: | :45 seconds |
| Optical Wavelength: | 850nm. |
| Sensitivity: | 10% - 60% obscuration (% per foot) Default value = 35% obscuration (per foot) |
| Temperature Range: | -4°F to 131°F (-20°C to +55°C) For ®UL Listed installations: 32°F to 100°F (0°C to 37.8°C) |
| Relative Humidity: | 0% to 93%, non-condensing |
| Range: | 26.25ft. to 330ft. (8.0m. to 101m.) |

## Details for Ordering

| Model | Part Number | Description |
|---|---|---|
| F5000* | 500-050261 | Reflective beam smoke detector |
| 5000-031 | S54331-Z1-A1 | (1) one prism and one (1) detector head for use with Model F5000 |
| 23901 | 500-050269 | Replacement prism for Model F5000 |
| 5000-004 | 500-050270 | Long-range prism kit |
| 5000-005 | 500-050273 | Surface-mount universal bracket for Model F5000 |
| 5000-006 | 500-050274 | Surface-mount wall bracket for prisms |
| 5000-007 | 500-050275 | (4) four-prism alignment adaptor for use with Model 5000-005 |
| 5000-008 | 500-050276 | (1) one-prism alignment adaptor for use with Model 5000-005 |
| 5000-009 | 500-050277 | Model F5000 controller back box |
| 5000-010 | 500-050278 | Semi-flush trim plate for controller back box |
| 5000-011 | 500-050279 | Model F5000 detector back box |
| 5000-012 | 500-050280 | Cover plate for Model 5000-011 detector back box |
| 5000-014 | 500-050281 | Ceiling-pendant mount (universal bracket) for Model F5000 |
| 5000-017 | 500-050282 | Model F5000 detector-wire cage |

*NOTE: Each Model F5000 project beam smoke detector includes one (1) controller, one (1) detector head, and one (1) prism.

NOTE: Each controller supports two (2) detector heads, max.

Notice: This marketing data sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

# ⚡StarLink

### NAPCO
## UNIVERSAL CELLULAR RADIOS BY NAPCO

## Napco StarLink Alarm Communicators For Universal Intrusion Account Reporting

- **Universal – Work on ALL panels** and applications
- **Report to any Central Station** via dial-up or IP
- **Work with all Contact ID and 4/2** reporting formats
- **Nationwide Coverage AT&T or Verizon** – Works even in fringe areas
- **Full data** primary or backup reporting
- **My StarLink Remote On/Off Consumer App**
- **Easiest, fastest installation & activation** with auto-dialer capture
- **Powered by Panel, low current 71mA.** (No separate power supply required.)
- **Unbeatable StarLink Tradeup Incentive Offer now makes Radios FREE!!!!** (with $100 USD Back)
  See full details online or scan QR code below)††

**at&t**
GSM 3/4G

**verizon**
NETWORK CERTIFIED
CDMA

Universal Alarm Radio **SLE-CDMA**

Universal Alarm Radio **SLE-GSM 3/4G**

# SLE-CDMA

# SLE-GSM-3/4G

Compliances: UL864, 9th Ed., UL1610, UL985, UL1023, UL1635
**Coming Soon! Coverage in Canada on AT&T**

††Scan for Tradeup
Incentive Offer Details

# StarLink SLE-Series Universal Cellular Alarm Communicators

## FEATURES

- **Full event reporting from any panel, anywhere***, field-proven to work virtually anywhere in US, on Panels using Contact ID or 4/2.
- **Ultra-Affordable** enough to standardize on for primary or backup reporting on every account
- **Cost-Saver Upgrade Program** - Upgrade to StarLink from Competitive 2G Radios. See full details online www.napcosecurity..com/starlink
- **Simplest 4-Step, 4-Wire Installation & Easiest Activation** - Just Enter a Radio ID. Napco Auto-Dialer Capture completes all ( no entering phones nos., formats, account nos.)
- **Reports to any Central Station.** NO special equipment. NO radio activation fee.
- **Patented Signal-Boost™ Technology** for unprecedented reliability even in remote/fringe areas
- **My StarLink™ Smart Phone App** for Consumer Remote Arm/Disarm on any panel brand with keyswitch input. Free App downloadable from iTunes® & Google Play® and new EZ one-wire Gemini Panel-Connect.  Also email/text messages/ (Option SLE-REMOTE)
- **Future-Proof, Upgradable Communicator Module** for future progressions in cell carrier networks
- **Takeover Feature** - Easily captures any panel's existing CS phone number and allows rerouting to another central without going to the panel
- **Bonus: Full High-Speed Napco Panel Up/Downloading** – Remote super-speed uploading/ downloading, requires cable,SLE-DLCBL (see below).
- **Choice of economical subscriber service plans,** separately available at www.napcocomnet.com

## SECURE & EASY INSTALLATION

- **Simplest 4-Step Installation: Register, Mount, Wire & Power-up**
  - **STEP 1.** **Register** account online www.napcocomnet.com and select options
  - **STEP 2.** **Mount** StarLink & attach antenna
  - **STEP 3.** **Wire** For **Primary Reporting** connect 4 Wires (2 ea. Power  (12V & Ground) & 2 ea. Panel (Tip & Ring); For **Backup Applications** use 6 Wires, those 4 + 1 ea. Tip and Ring.
  - **STEP 4.** **Apply Power** (See signals coming thru online, in real time.)
- **Long Range** – Precision antenna design for maximum range, place unit up to 100 feet from the control panel for best antenna location (Also, new optional high-performance remote antenna below.)
- **Powered by Panel, low current draw, eliminates extra equipment.**  Built in power supply uses Alarm Panel Aux power as power source. (Optional Smart Charge Module also available, see ordering info.)
- **Primary or Backup Reporting** – Jumper selectable option.
- **Patented Signal-Boost™ Technology,** throughout the communication transmission & reception, i.e., at both the radio and the Network Operations Center (NOC), super-amplifies alarm signals and wave shapes for unprecedented reliability even in remote/fringe areas.
- **Secure Encrypted Communications & UL Network Operations Center (NOC)**- StarLink radios will securely report full data to any central station you choose with no special equipment.  They communicate to carrier infrastructure using spread spectrum at the communications transport level, with authentication done via CAVE (Cellular Authentication and Voice Encryption) protocol for CDMA (or COMP128 & GEA3 for GPRS/GSM) and TCP/IP data using a proprietary encryption scheme.   Carrier infrastructure connects to NAPCO's UL Network Operations Center using VPN IPsec with 128 bits of encryption. (Encrypted alarm and up/ download packets where applicable.)
- **Easy 24/7 Account Management & Real-Time Status Monitoring** of all radio accounts online at www.napcocomnet.com (e.g., online, offline, check-in, signal strength level, trouble conditions, low battery/voltage input).
- **Over-the-Air Upgradable Communicator Firmware.** Remote ability for critical/ mandatory updates, without a truck-roll.
- **Full high-speed control panel upload/download supported on Gemini™  & Gemini Commercial** P816/1632/1664 and P9600/3200/X255 and GEMC/Firewolf Commercial series panels. (Note: Requires cable; #SLE-DLCBL).

**Compliances: UL 864, 9th Ed., UL1610, UL985, UL1023, UL1635**

## ORDERING INFORMATION

- **SLE-GSM-3/4G** Standard Burglary Radio, (Black) GSM 3/4G on AT&T Network
- **SLE-CDMA** as above, but CDMA Communications, Verizon-Network Certified

## AVAILABLE OPTIONS

- **MY STARLINK APP** Optional Consumer System On/Off Remote Service with Apple & Android smart devices. (Select **SLE-REMOTE** in account setup.) Download App from ITunes or Google.
- **SLE-DLCBL** Gemini Up/Downloading Cable for Napco Panels (Gemini, Gemini Commercial/Firewolf), only
- **A606** Free Trifold Enduser Brochure for new and existing accounts. Use as
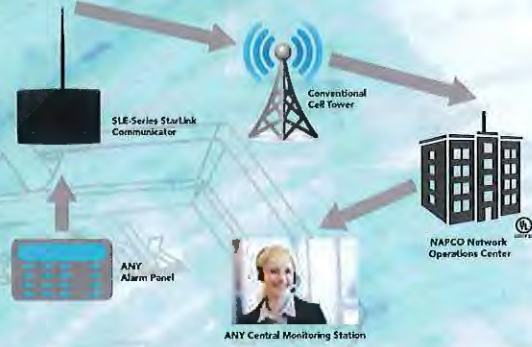


**Progression of alarm signals using a StarLink's cellular reporting system**

statement Stuffer or Self-Mailer - Designed to help tradeup accounts from landlines or old cell networks.

- **SLE-DLEXT** Optional, as above, for up/download-ing, extends distance to Napco panel up to 100'
- **SLE-SMTCHG** Optional Smart Charge Module overcomes limitations of AC access or standby power. (Uses 4AH/12V Rechargeable Battery)
- **SLE-CDMA-8D** Alternate Intrusion Model, sup-ports up/downloading with 3-wire buss Gemini Panels GEMP800, 801, XP400 & 600. (For elec. specs, this model, see WI 2120)
- **SLE-CDMA-CB**  Mercantile Commercial Burglary Model (Metal)
- **SLE-CDMA-CB-TF**  Mercantile model as above, but with plug-in AC Transformer
- **SLE CDMA-FIRE**  Alternate Commercial Fire, Sole Path, (Red ABS)
- **SLE-CDMAI-FIRE**  As above, Dual Path Cellular &/or IP

*Also Available: See Full Line of Commercial Fire Sole & Dual Path Cell/IP & Mercantile Burglary Models (see A676D Spec Sheet)*

## SPECIFICATIONS, SLE-GSM-3/4G & SLE-CDMA:

- **Housing:** Durable ABS plastic (black) includes three keyhole slots for mounting (easy  alignment with triple gang boxes)
- **Dimensions:** 5-3/8"x 7-7/8"x 1-7/8" (HxWxD)
- **Weight:** 13.5 oz
- **Diagnostic LED Indicators:** Three (3): Green, Signal Strength; Amber- Busy/ Activation; Red-Trouble
- **Dual band antenna,** precision design, for North America, 2dBi+ gain
- **Patented Signal Boost™:** Signal amplification circuit and high gain performance antenna

**Electrical Ratings:**

- **Input Voltage:** 11-15VDC
- **Input Current:** 71mA with peak RF transmission current of 200mA

**Ratings for IN 1 Burg/Fire Input:**

- **Input Voltage:** 9-15VDC
- **Maximum Input Current:** Up to 2mA

**Ratings for IN 2 and IN 3:**

- **Maximum Loop Voltage:** 15VDC
- **Maximum Loop Current:** 1.2mA
- **End of Line Resistor (EOLR) Value:** 10K

**PGM Output (3) Ratings:**

- **Open Collector Outputs:** 3V Max., active; 15V Max., inactive
- **PGM Sink Current:** 50mA, Max.

**Environmental Ratings:**

- **Operating Environment:** 0 to 49° C (32-120°F).
- **Humidity:** Maximum 93% (non-condensing)

## MY HOME STARLINK APP

- **Easy single-button** security system arm/ disarm control for accounts
- **Provides status update** so accounts see alarm status before and after arming or disarming command
- **App is downloadable Free** from iTunes or Google Market for iPhone/iPad/Droids. (Select SLE-REMOTE for account in setup).
- **Makes a great demo** on salespersons' smartphones to sell prospective customers StarLink remote control capability of your security systems



App

## StarLink
### UNIVERSAL CELLULAR RADIOS BY NAPCO

NAPCO Security Technologies, Inc. 1-800-645-9445 • 1-631-842-9400 • 1-631-789-9292 fax

AGREEMENT FOR PROFESSIONAL SERVICES

This Agreement is made and entered into as of the 21$^{st}$ day of October, 2020, by and between the City of Calexico ("City") and Sygnal Systems ("Consultant").

RECITALS

A.    Consultant is specially trained, experienced and competent to perform the special services which will be required by this Agreement; and

B.    Consultant possesses the skill, experience, ability, background, certification and knowledge to provide the services described in this Agreement on the terms and conditions described herein.

AGREEMENT

1.    Scope of Services.  The Consultant shall furnish the following services in a professional manner.  Consultant shall perform the services described on Exhibit A which is attached hereto and incorporated herein by reference.  Consultant shall provide said services at the time, place, and in the manner specified in Exhibit A, subject to the direction of the City through its staff that it may provide from time to time.

2.    Time of Performance.  The services of Consultant are to commence upon execution of this Agreement and shall continue until all authorized work is approved by the City.  All such work shall be completed no later than June 30, 2021.  Time is of the essence for every provision of this agreement that states a time for performance and for every deadline imposed by the City.

3.    Compensation.  Compensation to be paid to Consultant shall be as set forth in Exhibit B, which is attached hereto and incorporated herein by reference.  Payment by City under this Agreement shall not be deemed a waiver of defects, even if such defects were known to the City at the time of payment.

4.    Method of Payment.  Consultant shall submit monthly billings to City describing the work performed during the preceding month.  Consultant's bills shall include a brief description of the services performed, the date the services were performed, the number of hours spent and by whom, and a description of any reimbursable expenditures.  City shall pay Consultant no later than 30 days after approval of the monthly invoice by City staff.

5.    Ownership of Documents.  All plans, studies, documents and other writings prepared by and for Consultant, its officers, employees and agents and subcontractors in the course of implementing this Agreement, except working notes and internal documents, shall become the property of the City upon payment to Consultant for such work, and the City shall have the sole right to use such materials in its discretion without further

compensation to Consultant or to any other party. Consultant shall, at Consultant's expense, provide such reports, plans, studies, documents and other writings to City upon written request.

6       Independent Contractor. It is understood that Consultant, in the performance of the work and services agreed to be performed, shall act as and be an independent contractor and shall not act as an agent or employee of the City. Consultant shall obtain no rights to retirement benefits or other benefits which accrue to City's employees, and Consultant hereby expressly waives any claim it may have to any such rights.

7.      Interest of Consultant. Consultant (including principals, associates and professional employees) covenants and represents that it does not now have any investment or interest in real property and shall not acquire any interest, direct or indirect, in the area covered by and during this Agreement or any other source of income, interest in real property or investment which would be affected in any manner or degree by the performance of Consultant's services hereunder. Consultant further covenants and represents that in the performance of its duties hereunder no person having any such interest shall perform any services under this Agreement.

Consultant is not a designated employee within the meaning of the Political Reform Act because Consultant:

a.      will conduct research and arrive at conclusions with respect to his/her rendition of information, advice, recommendation or counsel independent of the control and direction of the City or of any City official, other than normal agreement monitoring; and

b.      possesses no authority with respect to any City decision beyond rendition of information, advice, recommendation or counsel. (FPPC Reg. 18700(a)(2).)

8.      Professional Ability of Consultant. City has relied upon the professional training and ability of Consultant to perform the services hereunder as a material inducement to enter into this Agreement. Consultant shall therefore provide properly skilled professional and technical personnel to perform all services under this Agreement. All work performed by Consultant under this Agreement shall be in accordance with applicable legal requirements and shall meet the standard of quality ordinarily to be expected of competent professionals in Consultant's field of expertise.

9.      Indemnity. Consultant agrees to indemnify, including the cost to defend, the City, and its officers, agents and employees from any and all claims, demands, costs or liability that arise out of, or pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant and its agents in the performance of services under this contract. This indemnity does not apply to liability for damages for death or bodily injury to persons, injury to property, or other loss, damage or expense arising from the sole negligence, willful misconduct or defects in design by the City or its agents, servants, or independent contractors who are directly responsible to the City, or the active negligence of the City.

To the fullest extent permitted by law, the Consultant shall (1) immediately defend and (2) indemnify the City, and its councilmembers, officers, agents, and employees from and against all liabilities regardless of nature or type that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant, or its employees, agents, or subcontractors.  Liabilities subject to the duties to defend and indemnify include, without limitation, all claims, losses, damages, penalties, fines, and judgments; associated investigation and administrative expenses; defense costs, including but not limited to reasonable attorneys' fees; court costs; and costs of alternative dispute resolution. The Consultant's obligation to indemnify applies unless it is finally adjudicated that the liability was caused by the sole active negligence or sole willful misconduct of an indemnified party. If it is finally adjudicated that liability is caused by the comparative active negligence or willful misconduct of an indemnified party, then Consultant's indemnification obligation shall be reduced in proportion to the established comparative liability.

(b)     The duty to defend is a separate and distinct obligation from Consultant's duty to indemnify.  Consultant shall be obligated to defend, in all legal, equitable, administrative, or special proceedings, with counsel approved by the City, the City and its councilmembers, officers, agents, and employees, immediately upon tender to Consultant of the claim in any form or at any stage of an action or proceeding, whether or not liability is established.  An allegation or determination that persons other than Consultant are responsible for the claim does not relieve Consultant from its separate and distinct obligation to defend under this section.  The obligation to defend extends through final judgment, including exhaustion of any appeals.  The defense obligation includes an obligation to provide independent defense counsel if Consultant asserts that liability is caused in whole or in part by the negligence or willful misconduct of the indemnified party.  If it is finally adjudicated that liability was caused by the comparative active negligence or willful misconduct of an indemnified party, Consultant may submit a claim to the City for reimbursement of reasonable attorneys' fees and defense costs in proportion to the established comparative liability of the indemnified party.

(c)     The review, acceptance or approval of the City's work or work product by any indemnified party shall not affect, relieve or reduce the City's indemnification or defense obligations. This Section survives completion of the services or the termination of this contract.  The provisions of this Section are not limited by and do not affect the provisions of this contract relating to insurance.

10.     Insurance Requirements.

        a.      Consultant, at Consultant's own cost and expense, shall procure and maintain, for the duration of the contract, the following insurance policies.

        i.      Workers' Compensation Coverage.  Consultant shall maintain Workers' Compensation Insurance and Employer's Liability Insurance for his/her employees in accordance with the laws of the State of California.  In addition,

Consultant shall require each subcontractor to similarly maintain Workers' Compensation Insurance and Employer's Liability Insurance in accordance with the laws of the State of California for all of the subcontractor's employees. Any notice of cancellation or non-renewal of all Workers' Compensation policies must be received by the City at least thirty (30) days prior to such change. The insurer shall agree to waive all rights of subrogation against City, its officers, agents, employees and volunteers for losses arising from work performed by Consultant for City. This provision shall not apply if Consultant has no employees performing work under this Agreement. If the Consultant has no employees for the purposes of this Agreement, Consultant shall sign the "Certificate of Exemption from Workers' Compensation Insurance" which is attached hereto as Exhibit C.

i.     General Liability Coverage. Consultant shall maintain commercial general liability insurance in an amount not less than one million dollars ($1,000,000) per occurrence for bodily injury, personal injury and property damage. If a commercial general liability insurance form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Agreement or the general aggregate limit shall be at least twice the required occurrence limit.

iii.    Automobile Liability Coverage. Consultant shall maintain automobile liability insurance covering bodily injury and property damage for all activities of the Consultant arising out of or in connection with the work to be performed under this Agreement, including coverage for owned, hired and non-owned vehicles, in an amount of not less than one million dollars ($1,000,000) combined single limit for each occurrence.

iv.    Errors and Omissions Liability. Consultant shall maintain errors and omissions liability insurance for all work performed under this Agreement in an amount of not less than one million dollars ($1,000,000).

b.     Policy Endorsements. Each general liability and automobile liability insurance policy shall be with insurers possessing a Best's rating of no less than A:VII and shall be endorsed with the following specific language:

i.     The City of Calexico, its elected or appointed officers, officials, employees, agents and volunteers are to be covered as additional insureds with respect to liability arising out of work performed by or on behalf of the Consultant, including materials, parts or equipment furnished in connection with such work or operations.

ii.     This policy shall be considered primary insurance as respects the City, its elected or appointed officers, officials, employees, agents and volunteers. Any insurance maintained by the City, including any self-insured retention

the City may have, shall be considered excess insurance only and shall not contribute with it.

        iii.    This insurance shall act for each insured and additional insured as though a separate policy had been written for each, except with respect to the limits of liability of the insuring company.

        iv.    Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City, its elected or appointed officers, officials, employees, agents or volunteers.

        v.    The insurance provided by this policy shall not be suspended, voided, canceled, or reduced in coverage or in limits except after thirty (30) days written notice has been received by the City.

    c.    Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions must be declared to and approved by the City. At the City's option, Consultant shall demonstrate financial capability for payment of such deductibles or self-insured retentions.

    d.    Certificates of Insurance and Endorsements. Consultant shall provide certificates of insurance with original endorsements to City as evidence of the insurance coverage required herein. Certificates of such insurance shall be filed with the City on or before commencement of performance of this Agreement. Current certification of insurance shall be kept on file with the City at all times during the term of this Agreement.

11.    Compliance with Laws. Consultant shall use the standard of care in its profession to comply with all applicable federal, state and local laws, codes, ordinances and regulations.

12.    Licenses. Consultant represents and warrants to City that it has all licenses, permits, qualifications, insurance and approvals of whatsoever nature which are legally required of Consultant to practice its profession. Consultant represents and warrants to City that Consultant shall, at its sole cost and expense, keep in effect or obtain at all times during the term of this Agreement, any licenses, permits, insurance and approvals which are legally required of Consultant to practice its profession. Consultant shall obtain a City of Calexico Business License.

13.    Controlling Law Venue. This Agreement and all matters relating to it shall be governed by the laws of the State of California and any action brought relating to this Agreement shall be held exclusively in a state court in the County of Imperial, California.

14.    Written Notification. Any notice, demand, request, consent, approval or communication that either party desires or is required to give to the other party shall be in writing and either served personally or sent prepaid, first class mail. Any such notice, demand, etc.

shall be addressed to the other party at the address set forth herein below.  Either party may change its address by notifying the other party of the change of address.  Notice shall be deemed communicated within 48 hours from the time of mailing if mailed as provided in this section.

|  |  |
|---|---|
| If to City: | City of Calexico, City Manager |
|  | 608 Heber Ave. |
|  | Calexico, CA  92231 |
|  |  |
| If to Consultant: | Sygnal Systems |
|  | 2157 Rose Fern Lane |
|  | Ramona, CA 92065 |

15. Consultant's Books and Records.

   a. Consultant shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services, or expenditures and disbursements charged to City for a minimum period of three (3) years, or for any longer period required by law, from the date of final payment to Consultant to this Agreement.

   b. Consultant shall maintain all documents and records which demonstrate performance under this Agreement for a minimum period of three (3) years, or for any longer period required by law, from the date of termination or completion of this Agreement.

   c. Any records or documents required to be maintained pursuant to this Agreement shall be made available for inspection or audit, at any time during regular business hours, upon written request by the City Manager, City Attorney, City Auditor or a designated representative of these officers.  Copies of such documents shall be provided to the City for inspection at City Hall when it is practical to do so.  Otherwise, unless an alternative is mutually agreed upon, the records shall be available at Consultant's address indicated for receipt of notices in this Agreement.

   d. Where City has reason to believe that such records or documents may be lost or discarded due to dissolution, disbandment or termination of Consultant's business, City may, by written request by any of the above named officers, require that custody of the records be given to the City and that the records and documents be maintained in City Hall.  Access to such records and documents shall be granted to any party authorized by Consultant, Consultant's representatives, or Consultant's successor-in-interest.

16. Entire Agreement.  This Agreement constitutes the complete and exclusive statement of Agreement between the City and Consultant.  All prior written and oral communications,

including correspondence, drafts, memoranda, and representations, are superseded in total by this Agreement.

17.      Amendments.  This Agreement may be modified or amended only by a written document executed by both Consultant and City and approved as to form by the City Attorney.

18.      Waiver.  No failure on the part of either party to exercise any right or remedy hereunder shall operate as a waiver of any other right or remedy that party may have hereunder.

19.      Execution.  This Agreement may be executed in several counterparts, each of which shall constitute one and the same instrument and shall become binding upon the parties when at least one copy hereof shall have been signed by both parties hereto.  In approving this Agreement, it shall not be necessary to produce or account for more than one such counterpart.

20.      Assignment and Subcontracting.  The parties recognize that a substantial inducement to City for entering into this Agreement is the professional reputation, experience and competence of Consultant.  Assignments of any or all rights, duties or obligations of the Consultant under this Agreement will be permitted only with the express consent of the City.  Consultant shall not subcontract any portion of the work to be performed under this Agreement without the written authorization of the City.  If City consents to such subcontract, Consultant shall be fully responsible to City for all acts or omissions of the subcontractor.  Nothing in this Agreement shall create any contractual relationship between City and subcontractor nor shall it create any obligation on the part of the City to pay or to see to the payment of any monies due to any such subcontractor other than as otherwise is required by law.

21.      Termination.  This Agreement may be terminated by the City immediately for cause or by either party without cause upon fifteen days' written notice of termination.  Upon termination, Consultant shall be entitled to compensation for services performed up to the effective date of termination.

***SIGNATURES ON FOLLOWING PAGE***

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the date first written above.


CITY OF CALEXICO:                          CONSULTANT:


_____            _____
David Dale
City Manager


APPROVED AS TO FORM:                       ATTEST:


_____            _____
Carlos Campos                              Gabriela Garcia
City Attorney                              City Clerk

EXHIBIT A

SCOPE OF SERVICES

(proposal dated June 9, 2020)

EXHIBIT B

SCHEDULE OF CHARGES

June 9, 2020

City of Calexico, Public Works Department
Attn: Lilliana Falomir
608 Heber Avenue
Calexico, CA 92231

Dear Lilliana,

It was a pleasure working with you in responding to the fire and life safety needs of the City of Calexico and I would like to thank you for your time and interest in Climatec.

Climatec has been in the life safety industry and making buildings safer since 1975. We are the leading provider of advanced building technologies, fire life and safety and energy solutions for thousands of customers every day. Our dedication to delivering an extraordinary customer experience and world-class service has enabled us to become part of the Bosch family and the largest privately-owned building technologies provider in the nation.

The proposal included in this package outlines our recommendations regarding the City's fire and life safety needs. The proposal and recommendations were developed after a thorough review of your facilities, as well as input based on information provided to us during the needs analysis and review of your facility and plans.

The system and solution proposed is designed to comply with fire code and uses the latest technology in the industry. With our NFPA approved fire detection and life safety systems you can be assured of the most effective and reliable solution possible.

Climatec can greatly improve the City's safety and we look forward to the possibility of working with you on this project.

Sincerely,

Carlos A. Perez
Account Executive
(949) 629-0274

---

| Contractor Name | Climatec, LLC. | | |
|---|---|---|---|
| **Project Experience** | Prime Contractor | | |
| Project Name | Golden West College Security Infrastructure | Project Location (City/State) | Huntington Beach, CA |
| Work Project Description | All construction services, end to end for a complete Access Control, CCTV, Emergency Phone system throughout the school campus. | | |
| Start Date | July 2016 | Completion Date | March 2017 |
| Project Owner Contact | Jon Arnold (714) 895-8924 | | |
| Original Contract Value | $2,907,980.00 | Final Contract Value | $2,942,980.00 |
| Reason for change orders | Project came with a $150,000 contingency. The change order was for the amount exceeding the contingency | | |

<div align="center">Project Specific Information</div>

All construction services, end to end for a complete Access Control, CCTV and Emergency Phone System.

ACCESS CONTROL
Server - Installed Lenel Onguard, Access Control server, workstation with video imaging and badge printer. Loaded software on 5 other existing workstations that met the minimum requirements.
Wireless locks - Installed 150+ AD400 wireless locks, 50+ PIMs and retrofit 50+ existing access controlled doors. Using GWC scheduling software, coordinated access to each classroom without impacting the class.
Automatic sliding doors - Installed 7 Horton Automatic sliding doors. This included installing 7 WRI (wireless interface modules)
Doors - Installed 11 new doors, reinforced 12 existing doors and adjusting closers on all existing doors that did not pass the pressure and closing speed test.
Door Locking Hardware - Installed various types of Von Duprin locking hardware on 50+ doors and retrofit 25 existing doors with new door closures.

CCTV
Server - Installed Avigilon ACC and 2 Video Recording Servers.
Cameras - Installed 82 Cameras throughout the campus.

EMERGENCY PHONES
Emergency Phones - Installed 16 Tower and 11 Wall mounted phones.

DURESS ALARMS
Duress Alarms - Installed 5 hardwired and 10 wireless duress alarms.

OTHER
Underground Boring Services - Provided pathways between existing light poles and parking areas to IDF rooms and to nearby 120VAC power sources, without the need for trenching. This included coordinating with 2 other ongoing new bldg construction projects (Math/Science, .
Electrical Services - Provided pathways between PIM modules, Card Readers and Panels. Also provided pathways to locations where 120VAC was not present.
Demo Services - Provided demo of the existing emergency phones as well as existing access control equipment at LRC and Public Safety Bldgs.
Painting Services - Painted all doors that we retrofit, to match existing. Also painted all walls where we demoed existing emergency phones.
Training Services - Provided a customized end user training plan with in depth training to several

| Contractor Name | Climatec, LLC. | | |
|---|---|---|---|
| **Project Experience** | Prime Contractor | | |
| Project Name | NBCUniversal Studios | Project Location (City/State) | Hollywood, CA |
| Work Project Description | Provide all software, labor, materials, tools and equipment necessary to provide Physical Security and Access Control Services for approximately 1,167 **controlled** doors and 4,813 video cameras. | | |
| Start Date | January 2012 | Completion Date | December 2018 |
| Project Owner Contact | James Warren **(818) 777-4478 or (818) 402-3677 Cell** | | |
| Original Contract Value | $2,100,000.00 | Final Contract Value | $2,100,000.00 |
| Reason for change orders | | | |

## Project Specific Information

Climatec has been consistently installing, programming and maintaining Genetec systems at Universal Studios Hollywood for the last 10 years. We maintain over 4,800 channels of Genetec video and various system archivers and servers on a daily basis. We have completed many projects over the years, that span Theme Park attractions, Command Centers, Network and 3rd Party Integrations, Data Center and Storage Solutions, and various other Operational Support efforts, along with our efforts across CityWalk and Lower Lot operational areas. We have developed a deep understanding of the Hollywood campus and how to work effectively and efficiently to maintain fluid operations and support business objectives at all levels.

### CONSTRUCTION
Provide installations and adds of Lenel access control and Genetec video systems to include cabling, field devices, head end equipment, software, programming and testing.

### SERVICE AND MAINTENANCE
Climatec currently provides service and maintenance of 4800+ cameras, all network infrastructure (Extreme Networks switch fabric), video storage servers and over 1167 access control readers for the Universal Studios site in Hollywood.

The contract consists of two parts. First is all of the fixed costs, including SSAs, preventative maintenance and daily inspections. The second part, is a T&M repair component. All unscheduled maintenance is billed to the customer on a T&M basis.

Climatec provides 24/7/365 coverage for the site.
Business hours we have 2 tier 1 tech onsite as well as 1 tier 3 tech and 1 project manager (The project manager is not part of the service effort but manages all of the construction projects outside the service contract). Construction is accomplished with subcontractors and onsite union electricians and does not interfere with the ongoing service and Maintenance.

| Contractor Name | Climatec, LLC. | | |
|---|---|---|---|
| Project Experience | Sub-Contractor | | |
| Project Name | Loma Linda University medical center Campus transformation | Project Location (City/State) | Loma Linda, CA |
| Work Project Description | Provide all software, labor, materials, tools and equipment necessary to provide a turnkey installation of new video, access control and infant security systems in the new medical tower | | |
| Start Date | January 2019 | Completion Date | December 2020 |
| Project Owner Contact | JOHN CLAUDIO - Sr Project Manager - Systems Loma Linda University Medical Center Bergelectric-Helix, Joint Venture (702) 203-1171 | | |
| Original Contract Value | $1,800,000.00 | Final Contract Value | $2,300,000.00 |
| Reason for change orders | Changes in the scope of work being requested by the owner. Additions include 118 wifi locks for custodial rooms. | | |
| Project Specific Information | | | |

New ground up design assist project for new medical tower on the Loma Linda University campus. Project multiple trades working simultaneously to complete their respective scopes with a very aggressive schedule. Climatec is installing nearly 500 cameras, 650 readers and associated headend equipment. Climatec is also installing infant security on the pediatric floor with integration with the access control system. Climatec is providing the coordination to the general contractor to interface with the elevator contractor to meet the desired results of the specifications.

Climatec is congruently working with Loma Linda university directly to implement Lenel across the entire campus. We are working on bringing existing buildings online as soon as the new tower 's system is functional.

| Contractor Name | Climatec, LLC. | | |
|---|---|---|---|
| Project Experience | Sub-Contractor | | |
| Project Name | San Yisdro U.S. Land Port of entry. | Project Location (City/State) | San Ysidro, CA |
| Work Project Description | Provide all software, labor, materials, tools and equipment necessary to provide a turnkey installation of new video,security and access control systems at the border patrol facility in San Yisdro. | | |
| Start Date | January 2017 | Completion Date | December 2019 |
| Project Owner Contact | Vincent Macias \| Asst. Project Manager<br>Helix Electric \| www.helixelectric.com<br>6795 Flanders Drive \| San Diego, CA 92121<br>Mobile: 619-4S0-9039 | | |
| Original Contract Value | $1,600,000.00 | Final Contract Value | $1,995,000.00 |
| Reason for change orders | Additional work requested by the owner. | | |
| Project Specific Information | | | |

Climatec furnished and installed access control, security alarm and video surveillance systems at the new border patrol site in San Ysidro. Climatec provided and installed all materials needed to include: cabling, cabinets, power supplies and associated headend equipment. Climatec provided design assist and trade coordination with all respective trades. Project was completed while maintaining the existing site. The existing site is the highest volume port of entry in the U.S. New project had nearly 400 cameras with intergrated microphones for surveillance of suspects. Security system had mulitple partitions to allow for officers to lock and unlock buildings from the headhouse. Access system has 130 readers and all associated headend and peripheral equipment.

| Contractor Name | Climatec, LLC. | | |
|---|---|---|---|
| Project Experience | Prime Contractor | | |
| Project Name | Lucas Museum | Project Location (City/State) | Los Angeles, CA |
| Work Project Description | Provide all software, labor, materials, tools and equipment necessary to provide a turnkey installation of new video and access control system for the Lucas Museum. | | |
| Start Date | March 2019 | Completion Date | December 2021 |
| Project Owner Contact | Joseph Zaragoza (Hathawy Dinwiddie) Cell (213) 999-1133 | | |
| Original Contract Value | $1,900,000.00 | Final Contract Value | $1,900,000.00 |
| Reason for change orders | None as of yet | | |
| Project Specific Information | | | |

Project has an multiple BIM and design meetings per week. As a prime contractor Climatec is coordinating directly with both the general contractor and other prime contractors. Climatec is tasked with finding and help resolving design clashes with other trades. Owner directed design and use changes are occurring nearly daily.

Climatec is providing a turnkey installation of the access control, video surveillance and emergency phones.

# S3 Series Control Panel

## Small Addressable Fire Alarm Control Panel

### General

The Gamewell-FCI®, S3 Series Intelligent Fire Alarm Control Panel provides the latest, innovative high-end processing power. The S3 Series panel is a digital, microprocessor-based system that offers a simple, intuitive solution for the small to mid-sized fire alarm applications.

In standalone or network configurations, the S3 Series complies with most fire alarm application requirements. It supports the following types of networks.

- Up to 64 nodes using the 7100 Series panel.
- Up to 122 nodes using the S3 Series or E3 Series® panels.

Use either twisted-pair wire or fiber-optic to network panels at a high-speed 625K baud ARCNET network bus.

With flexible Boolean logic, intelligent detection, and Ethernet connectivity, this system provides power and versatility that surpasses comparable, small addressable fire alarm systems.

The basic S3 Series configuration consists of an SLP (Smart Loop Panel) main board, LCD-SLP touchscreen display, SLC loop personality modules, and as seven amp power supply. The SLP main board provides either one or two SLC loops in the Class A or B configuration that supports either of the following protocols:

- Up to 318 devices per loop using the System Sensor® protocol. If you add a second loop module, it increases the maximum device count to 636 devices.
- Up to 126 devices per loop using the Apollo protocol. If you add a second loop module, it increases the maximum device count to 252 devices.

*S3 Series*

## FEATURES & BENEFITS

- Listed per ANSI/UL® Standard 864 9th Edition

- IBC Seismic Certified

- Allows one SLC loop (expandable to two loops) that supports either System Sensor or Apollo devices in Class A or Class B (Style 4, 6 or 7)

- Supports a network system of up to 122 nodes (includes E3 Series® panels) or up to 64 nodes (includes 7100 Series)

- System Sensor supports up to 318 intelligent devices and each SLC loop supports the following
  - up to 159 detectors
  - up to 159 modules (expandable to 636 maximum per panel)
- Apollo supports up to 126 intelligent detectors and modules per SLC. (Expandable to 252 maximum per panel)

- Includes a high resolution (4.3") (10.92 cm) color touchscreen display

- Provides 7.0 amp power supply (120VAC or 240VAC)

- Includes four Class B or two Class A built-in Notification Appliance Circuits (NAC)

- Provides selectable System Sensor, Cooper-Wheelock, or Gentex™ strobe synchronization

- Supports up to 32 serial annunciators (LCD, LED-only, LED Switch)

- Offers an Ethernet port for programming, a variety of system reports, and a FocalPoint® Graphic Workstation connectivity

- Provides two fully-programmable Form-C contacts for Fire, Trouble, and Supervisory

- TimeCap - Saves time and date up to 48 hours without any power or battery

- Automatically adjusts to any NAC End-of-Line Resistor (EOL) value (1k–55k ohm) for legacy audible/visual appliances

- Removable display can be used as a remote annunciator

- Suitable for pre-action deluge applications

## General

Four Class B or two Class A NACs can be wired and synchronized using the System Sensor, Cooper-Wheelock®, or Gentex™ strobes. To retrofit the SLP on the existing audible/visual appliances, the on-board Electronic EOL (EEOL) automatically adjusts to the EOL resistor in the field.

A 4.3" (10.92 cm) color touchscreen display screen shows the following:

- Events on the system
- Status of analog addressable devices
- Complete diagnostic fault codes/messages
- Five programmable function buttons with LED status for accessibility to the following functions:

  - Disable/Enable
  - Bypass Output
  - Lamp Test
  - Trouble Acknowledge
  - Alarm Acknowledge
  - Custom-defined

## Application

The S3 Series Fire Alarm and Life Safety System is an easy-to-use intelligent fire alarm solution designed for the small to mid-sized buildings. Analog technology delivers the benefits of a simple system installation, while a user-friendly interface makes panel operation and system maintenance quick and intuitive.

## Smart Panel Programming

Using Boolean logic programming, the installer may customize the system to precisely suit the needs of the building owner. Auto-programming allows the installer to instantly locate all the devices on the SLC loop.

## Simple, Intuitive Display

The front panel display provides a user-friendly interface for the operator's control. A 4.3" (10.922 cm) color touchscreen displays system status, event details and service modes. On the front of the panel, six LEDs show the following conditions.

- Fire
- Hazard (Gas or CO)
- Supervisory
- Silenced
- AC Power
- Trouble

Five custom programmable switches allow the user quick access to common functions specific to the building like device disable, output bypass and device status.

## Perfect for Retrofits

The S3 Series is well-suited for retrofit applications. The SLP provides a simple way to upgrade your fire protection system. It is designed to be an upgrade solution for the legacy FCI, 7100 and Gamewell, 602 Series panels. An added feature is the SLP's EEOL. Using EEOL, the installers can automatically identify the EOL for existing audible/visual appliances.

## Flexibility for Future Growth

The S3 Series can be expanded to add a second SLC loop without replacing the entire system. Using the RPT-E3-UTP Network Repeater, you can network up to 64 nodes (122 nodes with the ANX node expander) using either twisted-pair or fiber-optic. The built-in Ethernet port allows the connection to the Gamewell-FCI's FocalPoint Graphical Workstation.



*Figure 1 LCD-SLP Display*

## Optional Accessories

### DACT-E3 - Dialer

The Digital Alarm Communication Transmitter sends digital signals over telephone lines to the central station. It connects to the SLP through an RS-485 bus. Using the Contact ID format, the DACT-E3 provides a four-digit account code followed by the code/numbers listed below:

- Three-digit Event Code
- Two-digit Group Number
- Three-digit Contact Number

All codes are used to provide specific point identification. The DACT-E3 is compatible with digital alarm communicator receivers (DACRs) that receive the following signaling formats:

- Contact ID
- 3+1
- SIA
- 4+2

For more information, refer to the following data sheets:

- DACT-E3 Data Sheet, P/N: 9020-0610

### RPT-E3-UTP - Network Repeater Card

The Network Repeater allows the SLP fire control panels to connect to the broadband network from remote locations. It connects to other networked units using unshielded, twisted-pair wiring. The RPT-E3-UTP is available with two add-on fiber modules:

- FML-E3 connects to the network using either 62.5/125 micron multi-mode fiber.
- FSL-E3 connects to the network using 9/125 micron single-mode fiber.

Refer to the following data sheets:

- RPT-E3-UTP Data Sheet, P/N: 9020-0609.
- FML-E3/FSL-E3 Data Sheet, P/N: 9021-60783

## LCD-7100 - Remote Annunciator

The Remote serial display features an 80-character display. The LCD-7100 can be surface or flush-mounted on a standard 4-gang electrical box. You can use up to five LCD-7100 remote annunciators per SLP panel. For more information, refer to the LCD-7100 Data Sheet, P/N: 9020-0486.

## ASM-16 - Addressable Switch/LED Module

There are 16 programmable switches available to perform any function the application requires. Each ASM-16 switch has 3 LEDs fully programmable in red, yellow, and green. These LEDs can be programmed to operate with a certain button press or operate independently as a status signal (e.g. ON, OFF, Activated, etc). Up to 16 ASM-16 modules can be connected to the SLP panel. For more information, refer to the ASM-16 Data Sheet, P/N: 9020-0554.

## ANU-48 - 48 LED Driver Unit

The ANU-48 provides output for eight remote panel switches and 48 remote LEDs for use in a remotely located UL® Listed annunciator enclosure. Up to 16 ANU-48 modules can be connected to the SLP panel. For more information, refer to the ANU-48 Data Sheet, P/N: 9020-0596.

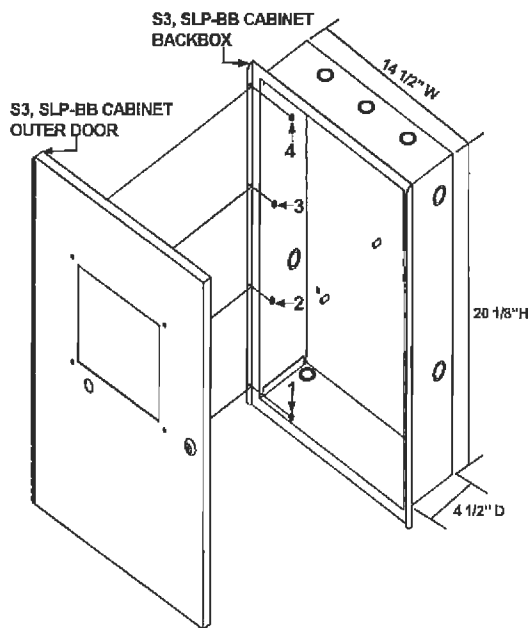Figure 2 illustrates the S3, SLP-BB Cabinet Enclosure.



*Figure 2 S3, SLP Enclosure*

## Ordering Information

**SLP-BLK:** SLP addressable FACP in black S3, SLP-BB enclosure. Requires either an SLC-PM or an SLC95-PM for SLC loops.

**SLP-RED:** SLP addressable FACP with red door and black S3, SLP-BB backbox. Requires either an SLC-PM or an SLC95-PM for SLC loops.

**SLP-RED-G:** SLP addressable FACP 240VAC power supply with red door and black S3, SLP-BB backbox. Requires either an SLC-PM or an SLC95-PM for SLC loops.

**SLC-PM:** System Sensor Loop Card - 1 loop used for 159 sensors and 159 modules. For use with the S3 panels only.

**SLC95-PM:** Apollo Loop Card-1 loop used for 126 sensors and modules. For use with the S3 panels only.

### Accessories

**DACT-E3:** Digital Dialer Communicator Transmitter for the S3 or E3 Series.

**LCD-SLP:** LCD Color Touchscreen display with five programmable switches. For use with the S3 Series panels. Remote annunciation requires the E3 Series A2 cabinet. (E3BB-BA2, E3BB-RA2)

**RPT-E3-UTP:** Network repeater card with twisted-pair, fiber connections. Requires either an FML-E3 or an FSL-E3 card.

**FML-E3:** Multi-mode fiber-optic card for one channel on the RPT-E3-UTP.

**FSL-E3:** Single-mode fiber-optic card for one channel on the RPT-E3-UTP.

**SLP-RB:** SLP motherboard
For use with the replacement or the retrofit solutions.

**FLPS-7-RB:** SLP 120VAC 7A power supply.
For use with the replacement or the retrofit solutions.

**SLP-RETROFIT:** SLP Retrofit Kit for the 7100 B-Slim and IF602 panels. Includes the new door and the mounting plate. Requires the following:

- SLP-RB
- SLC95-PM
- SLC-PM
- FLPS-7-RB
- LCD-SLP

**S3BB-RB:** SLP red cabinet with an inner door for the mounting display behind the locked, plexi-glass door.

Requires the following:

- SLP-RB
- SLC95-PM
- SLC-PM
- FLPS-7-RB
- LCD-SLP

**LCD-7100:** Remote Serial LCD Annunciator

**ASM-16:** Remote Programmable Addressable Switch/LED Module

**ANU-48:** Remote LED Driver Module

3

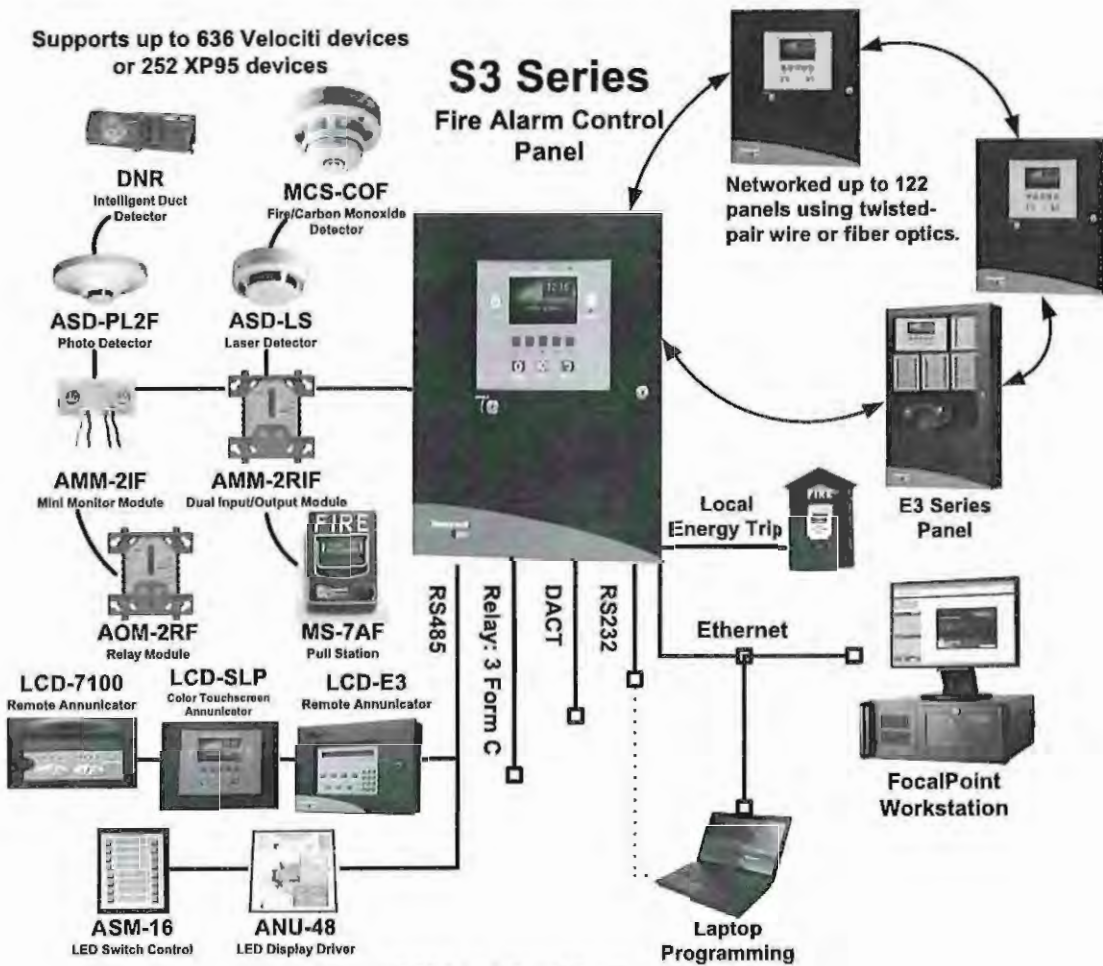Figure 3 illustrates the various S3 Series configuration options that are available.



Figure 3 S3 Series Panel Configuration Options

# S3 Series Control Panel Technical Specifications

## SYSTEM

**Device Loops:** Up to two Class A or B, System Sensor units, each loop supports up to 318 device addresses. OR-
Apollo units, each loop supports up to 126 device addresses per loop.

**NAC Circuits:** Four Class B or 2 Class A (2.0 A each circuit), 6.0 A total

**NAC Operating Voltage:** 24 VDC

**NAC Minimum Voltage:** 19.5 VDC @ 20.4 V battery voltage

**SLC Loop Circuit Operating Voltage:** 24 V peak-to-peak

**Input Voltage:** 120 VAC, 60 Hz 240 VAC 50-60 Hz

**Input Current:** 120 VAC, 2.75 amps max. 240 VAC, 1.4 amps max.

**Aux Power (Resettable):** Two Auxiliary circuits, 24 VDC, 1.75 A

**Aux Power**

**Supervised**

**Class 2 Power-Limited**

**(Non-Resettable):** (maximum current of 1.75 is shared between two circuits).

**Base Panel Current Draw:**
   **Standby:** 0.111 amps
   **Alarm:** 0.243 amps

**Operating Temperature:** 32°-120° F (0°-49° C)

**Relative Humidity:** 93% (non-condensing)

**Battery Charger Voltage:** +24 VDC

**Battery Charger Capacity:** 55 A/H batteries (cabinet accommodates 12 A/H batteries)

**Alarm, Trouble & Supervisory Relay Contacts:** Form-C, 2 amps @ 24VDC (resistive)

**Cabinet Dimensions:**

**S3, SLP-BB Dimensions:** 14 1/2"Wx20 1/8"Hx4 1/2" D
   (36.83W x 51.18 H x 11.43 D cm)

**S3BB-RB Dimensions:** 19 3/8"Wx19 3/8"Hx4.5" D
   (49.22 W x 49.22 H x 11.43 D)

## TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (non-condensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

## STANDARDS

The S3 Series Control Panel is designed to comply with the following standard:
**UL Standard:** UL 864 9th Edition

## AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult the factory for the latest listing status.
**UL Listed:** S1869
**FM Approved**
**MEA FDNY:** COA 6162
**CSFM:** 7165-1703:0176
**City of Chicago Approved:** Class 1
**Reference Certificate of Compliance:** VMA 45894-02C
**ISO 9001 Certification**

For a complete listing of all compliance approvals and certifications, please visit: http://www.gamewell-fci.com/en-US/documentation/Pages/Listings.aspx

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Cooper-Wheelock® is a registered trademark of Cooper-Wheelock Corporation.

Gentex™ is a trademark of Gentex Corporation.

UL® is a registered trademark of Underwriters Laboratories Inc.

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

## For more information

Learn more about Gamewell-FCI's S3 Series Control Panel and other products available by visiting www.Gamewell-FCI.com

**Honeywell**

# Honeywell | Analog and Networking Systems

Gamewell

# LCD-E3

## LCD Keypad Display

### General

The LCD-E3 (Liquid Crystal Display) is the main panel's, keypad display for the E3 Series® Expandable Emergency Evacuation System. It includes indicating LEDs and operating switches. Up to six LCD-E3 displays may be located locally or remotely from the fire alarm control panel via a local RS-485 bus and connect to the following modules:

- E3 Series control panel
- ILI-MB-E3/ILI95-MB-E3
- S3 Series control panel
- SLP-E3 (Smart Loop Panel)

The LCD-E3 includes an LCD display for the system status and the following Switches and LED indicators:

**Switches**
Alarm Acknowledge
System Reset/Lamp Test
Signal Silence
Trouble Acknowledge
12 button keypad
Function buttons:
Menu/Back
Back Space/Edit
OK

**LED Indicators**
AC Power On (green)
Alarm (red)
Supervisory (yellow)
System Trouble (yellow)
Power Fault (yellow)
Ground Fault (yellow)
System Silenced (yellow)

*LCD-E3*

### Installation Options

The LCD-E3 is adaptable for installation in any of the following E3 Series System cabinets.

| CABINET | PART NUMBER |
|---|---|
| "A" Size Cabinet, Inner Door | E3ID2-A |
| "A2" Flush Cabinet | E3BB-FLUSH-LCD |
| "A2" Size Cabinet, Inner Door | E3ID-A2 |
| "B" Size Cabinet, Inner Door | E3ID2-B |
| B-Slim Cabinet, Outer Door | E3BB-RBSLIM |
| 7200 B Retrofit, Inner Door | 7200-B-RETROFIT |
| IF600 Retrofit, Outer Door | IF600-RETROFIT |
| "C" size Cabinet, Inner Door | E3ID2-C |
| 600XL Retrofit, Inner Door | 600XL-RETROFIT |
| 7200 C Retrofit, Inner Door | 7200-C-RETROFIT |
| "D" Size Cabinet, Inner Door | E3ID2-D |

### Ordering Information

LCD-E3: LCD keypad display

## FEATURES & BENEFITS

- Listed under UL Standard 864, 9th Edition

- Provides an 80-character display of system events together with indicating LEDs and control switches

- Offers a legible backlit LED display, with low power consumption

- Up to six LCD-E3 displays, any or all of which, my be remotely located via the RS-485 Serial interface can be supported by the following modules:
  - E3 Series
  - ILI-MB-E3
  - ILI95-MB-E3
  - S3 Series
  - SLP-E3

- The E3 Series, ILI-MB-E3/ILI95-MB-E3 or S3 Series, SLP can support up to six LCD-E3 displays, any or all of which may be remotely located via the RS-485 serial interface

# **LCD-E3** Technical Specifications

## SYSTEM

**Operating Voltage:**

24 VDC FWR (from PM-9 power supply)

**Operating Current:** 0.024 amp

**Alarm Current:** 0.028 amp

**Operating Temperature:** 32° to 120° F
(0° to 49° C)

**Relative Humidity:** 0 to 93%, non-condensing
at 90° F (32° C)

## TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

## STANDARDS

The LCD-E3 is designed to comply with the following standard:
**UL Standard:** UL 864 9th Edition

## AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult the factory for the latest listing status.

**UL Listed:** S1869

**FM Approved:** 3025415

**MEA Approved, FDNY:** COA# 6077

**CSFM:** 7165-1703-0125

**City of Chicago:** Class 1, Class 2 and High Rise

**City of Denver**

**ISO 9001 Certification**

**For more information**

Learn more about Gamewell-FCI's LCD-E3 and other products available by visiting www.Gamewell-FCI.com

# **Honeywell**

# DACT-E3

## Digital Alarm Communicator Transmitter

### General

The Digital Alarm Communicator Transmitter (DACT-E3) is a digital communications circuit. It is an optional component of the following systems.

- E3 Series® Expandable Emergency Evacuation System
- S3 Series Small Addressable Fire Alarm Control Panel

The DACT-E3 sends digital signals over the telephone network that transmits to a central station. This module can be located in the main cabinet or remotely located via a local RS-485 serial interface.

The DACT-E3 is compatible with digital alarm communicator receivers (DACRs) that receive the following signaling formats:

- SIA DC8
- SIA DCS20
- Ademco Contact ID
- 3+1 1400 Hz

- 3+1 2300 Hz
- 4+2 1400 Hz
- 4+2 2300 Hz



*DACT-E3*

In addition to the DACT-E3 being compatible with digital signaling formats, the DACT-E3 features numerous formats for communication to a central station. As a digital communicator, the DACT-E3 complies with FCC Part 8, Telecommunication Standards for DC and AC Ringer Equivalence.

### Installation

The DACT-E3 is adaptable for installation in the standard E3 Series and S3 Series System cabinets. Typically, the DACT-E3 module mounts on standoffs on top of the left side of the ILI-MB-E3/ILI95-MB-E3 or SLP (Smart Loop Panel) module. Either unit can be easily connected to the backbox or sub-assembly plate depending on the cabinet module.

For instructions on how to install the DACT-E3, refer to the following documents:

- E3 Series Expandable Emergency Evacuation Manual, P/N:LS10080-051GF-E
- DACT-E3 Installation Instructions, P/N:9000-0581
- S3 Series (Small Addressable Fire Alarm Control Panel) UL Listing Document, P/N:LS10005-051GF-E

### Ordering Information

**DACT-E3:** Digital Alarm Communicator Transmitter

## FEATURES & BENEFITS

- Listed under UL®® Standard 864, 9th Edition
- Transmits and verifies data to the central station

- Communicates with the following sub-assemblies via the RS-485:
  - E3 Series
  - ILI-MB-E3
  - ILI95-MBE3
  - S3 Series, SLP

- Sends information in a variety of formats (including full Contact ID)
- Offers pre-programmed dialing to the central station phone number

- Performs on and off-hook status to the phone lines
- Traces proper central station "ACK" and "Kiss-off" tone
- Activates hang-up and release phone lines

- Compatible with the IPDACT Internet Communicator
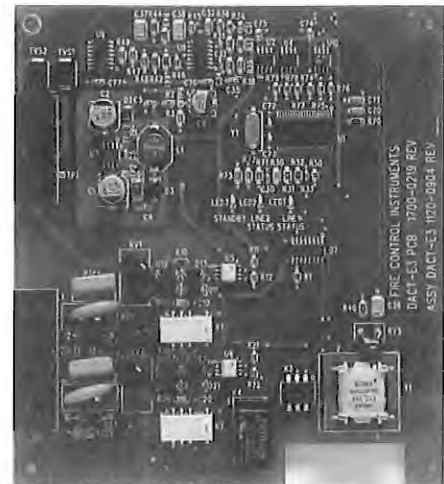
# DACT-E3 Technical Specifications

## SYSTEM

**Operating Voltage:** 24 VDC (from the PM-9/PM-9G power supply)

**Operating Current:** 0.018 amp

**Alarm Current:** 0.018 amp

**Operating Temperature:** 32° to 120° F (0° to 49° C)

**Relative Humidity:** 0 to 93%, non-condensing at 90° F (32° C)

## TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

## STANDARDS

The DACT-E3 is designed to comply with the following standard:
**UL Standard:** UL 864 9th Edition

## AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult the factory for the latest listing status.

**UL Listed:** S1869

**FM Approved:** 3025415

**MEA Approved, Fire Dept. of New York:** COA# 6077

**CSFM:** 7165-1703-0125

**City of Chicago:** Class 1, Class 2 and High Rise

**City of Denver**

For a complete listing of all compliance approvals and certifications, please visit: http://www.gamewell-fci.com/en-US/documentation/Pages/Listings.aspx

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**For more information**

Learn more about Gamewell-FCI's DACT-E3 and other products available by visiting www.Gamewell-FCI.com

**Honeywell**

# MS-7 Series

## Manual Fire Alarm Pull Stations

### General

The Gamewell-FCI, MS-7 Series manual fire alarm pull stations are available in a wide variety of configurations. The pull stations comply with the Americans with Disabilities Act (ADA) 5-lb. maximum pull force requirement. Operating instructions and Braille text are engraved in the handle. All pull stations include a key lock/reset which is keyed alike with the Gamewell-FCI fire alarm control panels and other manual fire alarm pull stations.

### MS-7AF Velociti Addressable Station

The MS-7AF Velociti® Series addressable station is a double action pull station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the pull station causes its assigned address to register at the fire alarm control panel. The door contains an LED which flashes green in normal condition and lights steady red when the station has been activated.* The station features screw terminals.

### MS-7ASF Velociti Addressable Station

The MS-7ASF Velociti® Series addressable pull station is a single action station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the station causes its assigned address to register at the control panel. The door contains an LED which flashes green in normal condition and lights steady red when the pull station is activated.* The station features screw terminals.

The Velociti® Series pull stations use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and focuses on the single device. The net effect offers a response speed up to five times greater than earlier designs.

### MS-7 Double Action Station

The MS-7 double action pull station is used with conventional fire alarm control panels. It features a set of single pole contacts and screw terminals for connection to an initiating circuit.



*MS-7 Series*

## FEATURES & BENEFITS

- Addressable stations compatible with all Gamewell-FCI analog addressable fire alarm controls

- Conventional stations suitable for use with any UL® Listed control panel

- The pull stations (MS-7LOB) are Listed for outdoor applications

- Complies with ADA pull force requirements

- Offers surface or semi-flush mounting

- Shock and vibration resistant

- Both single and double action pull stations available

- Includes a tumbler lock for test and reset keyed alike with analog addressable fire alarm controls

*Only the red LED is operative in panels that do not operate in Velociti mode

### MS-7S Single Action Station

The MS-7S single action pull station is used with conventional fire alarm control panels. It features a set of single pole contacts and wire leads for connection to an initiating circuit.

### MS-7SP Double Action Station

The MS-7SP is a double action pull station similar to the MS-7 station, with the additional feature of including both English and Spanish instructions molded into the unit.

### MS-7LR Dual-action Agent Release Station

The MS-7LR is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems. It features a set of single pole contacts and screw terminals used to connect to an initiating circuit.

### MS-7LRA Agent Release Station with Abort

The MS-7LRA is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems where system abort capabilities are required. It consists of the following:

- An MS-7LR mounted on a plate with an abort switch
- LED indicators that signal system normal and system activated status

### MS-7LOB Double Action Station (Listed for Outdoor Applications)

The MS-7LOB station must be mounted on a Model SB-I/O backbox. In retrofit applications, the pull station is UL Listed for use with the WP-10 backbox. It is intended for use with conventional control panels and has a set of single pole contacts and screw terminals.

### Mounting

The MS-7 interior pull stations may be surface mounted or semi-flush mounted on a standard double-gang, or 4-inch (10.2 cm) square electrical box. An optional trim ring (BG12TR) may also be used for semi-flush mounting.

### NYC-Plate

The NYC-Plate provides the backplate for the manual pull station. (See Figure 1).



*Figure 1 NYC-Plate*

## Ordering Information

**MS-7:** Double action station

**MS-7AF\*\*:** Velociti addressable double action station

**MS-7ASF\*\*:** Velociti addressable single action station

**MS-7S:** Single action station, wire leads

**MS-7SP:** Double action station, English and Spanish instructions

**MS-7LR:** Agent release station, dual-action

**MS-7LRA:** Agent release station with abort switch, LED indicators, dual- action

**MS-7LOB:** Double action station, outdoor use (Includes SB-I/O - Indoor/outdoor use backbox)

**SB-I/O:** Indoor/outdoor use backbackbox

**SB-10:** Surface backbox

**BG12TR:** Trim ring for semi-flush mount, plastic

**NY-PLATE:** NYC backplate for manual pull station

\*\*For use with the Gamewell-FCI analog addressable control panels only.

# MS-7 Series Technical Specifications

## SYSTEMS

**Material:** Lexan°
**Contact Ratings:** 0.25 amps. @ 30 VAC/VDC (resistive)
**Dimensions:** 5 5/8" H x 4 1/4" W x 1 1/4" D
  (14 x 10.1 x 3.2 cm)

**Operating Temperature:**
  **(MS-7AF, MS-7ASF):** 32° to 120° F (0° to 49° C)
  **(MS-7LOB):** -30° to 150° F (-35° to 66° C)

**Relative Humidity :**
  **(MS-7AF, MS-7ASF):** 10 to 93% (non-condensing)
  **(MS-7LOB):** 85% ± 5% @ 86° ± 3.6° (30° ± 2° C)

**Alarm Current:** .0030 amp. 0.007 for LED

**Supervisory Current:**
  **(MS-7AF, MS-7ASF):** .00030 amps.

### TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

## STANDARDS

The MS-7 Series is designed to comply with the following standard:

**UL Standard:** UL 864 9th Edition

### AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

**UL:** S2465
**FM:** 3023594
**MEA FDNY:** 67-02-E Vol. VII
**CSFM:**
  7160-1703:0119
  7160-1703:0170
  7160-1703:0109
**ISO 9001 Certification**

For a complete listing of all compliance approvals and certifications, please visit: http://www.gamewell-fci.com/en-US/documentation/Pages/Listings.aspx

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**Honeywell**

# AMM-2F

## Addressable Monitor Module

### General

The Gamewell-FCI Velociti® Series, addressable monitor module AMM-2F is a single Style B, Class B initiating device circuit (IDC) with a 47KW end-of-line resistor. This module provides an address for any device or group of devices connected to this circuit on the signaling line circuit (SLC) of the Gamewell-FCI addressable series fire alarm control panel. Any initiating device with normally open (N.O.) dry contacts may be made addressable when connected to the AMM-2F module.

The Velociti® Seriems use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net effect is response speed up to five times greater than earlier designs.

The AMM-2F module can be programmed to provide a wide variety of input functions to the Gamewell-FCI addressable series fire alarm control panels. It can be identified as a manual station, heat detector, plenum detector, waterflow switch, tamper switch, N.O. contact, smoke detector, projected beam smoke detector, sub loop, remote zone, etc. It can also serve as a remote system silence, system reset, system acknowledge or drill switch. It is even possible to customize its device type to meet specific job requirements.

The initiating device circuit of the AMM-2F can support a maximum line resistance of up to 40 ohms allowing the use of linear heat detection devices. The compact size facilitates the installation of the module inside manual stations, or mounting boxes of various types of alarm initiating devices.

### Ordering Information

AMM-2F: Addressable monitor module, single circuit, Style B, Class B



*AMM-2F*

## FEATURES & BENEFITS

- Compact size allows easy installation
- Class B, Style B, initiating circuit
- 40 Ohm line resistance for each initiating device circuit
- Connects to any normally open dry contact device

# AMM-2F Technical Specifications

## System

**Supervisory Current:** .000375 amps
**Alarm Current:** .00060 amps
**Operating Temperature:** 32° to 120° F (0° to 49° C)
**Relative Humidity:** 10 to 93% (non-condensing)
**End-of-Line Resistance:** 47K ohms
**Dimensions:** 1.3" L x 2.5" W x 0.5" D
(3.3 x 6.4 x 1.3 cm)

### TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

## STANDARDS

The E3 Series Control Panel is designed to comply with the following standard:
**UL Standard:** UL 864 9th Edition

### AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
**UL:** S1949
**FM:** 3023594
**MEA FDNY:** 227-03-E VOL. IV
**CSFM:** 7300-1703:0102
**ISO 9001 Certification**

For a complete listing of all compliance approvals and certifications, please visit: http://www.gamewell-fci.com/en-US/documentation/Pages/Listings.aspx

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**Honeywell**

# Velociti Series® AOM-2RF

## Addressable Output Relay Control Module

### General

The Gamewell-FCI Velociti® Series, addressable output relay control module (AOM-2RF) allows a Gamewell-FCI analog addressable fire alarm control panel to switch discrete relay contacts by code command. The relay provides two isolated sets of Form-C contacts which transfer simultaneously. Circuit connections to the relay contacts are not supervised by the module.

The Velociti® Series use a communication protocol that substantially increases the speed of communication between the SLC devices and certain Gamewell-FCI analog addressable fire alarm control panels. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net result produces a superior response speed up to five times greater than earlier designs.

The AOM-2RF Module is designed for installation in the signaling line circuit of any Gamewell-FCI analog addressable fire alarm control panel. The module contains a panel controlled LED. The AOM-2RF is designed to mount in a 4" (10.16 cm) square junction box 2 1/8" (5.53 cm) deep.

### Ordering Information

**AOM-2RF:** Addressable output relay control module

Table 1 lists the relay contact ratings.



AOM-2RF

| CURRENT RATING | MAXIMUM VOLTAGE | LOAD DESCRIPTION | APPLICATION |
|---|---|---|---|
| 3A | 30 VDC | Resistive | Non-Coded |
| 2A | 30 VDC | Resistive | Coded |
| 0.9A | 110 VDC | Resistive | Non-Coded |
| 0.5A | 125 VAC | Resistive | Non-Coded |
| 0.5A | 30 VDC | Inductive (L/R=5ms) | Coded |
| 1A | 30 VDC | Inductive (L/R=2ms) | Coded |
| 0.5A | 125 VAC | Inductive (PF=.35) | Non-Coded |
| 0.7A | 75 VAC | Inductive | Non-Coded |

Table 1: Relay Contact Ratings

## FEATURES & BENEFITS

- Listed under UL® Standard 864
- Offers two sets of Form "C" contacts

- Provides visual rotary, decimal switch addressing (01-159)

- Includes a bi-color LED that flashes green whenever the module is addressed, and lights steady red upon activation*

- Designed as a compact size to allow easy installation

Note 1: Only the red LED is operative in panels that do not operate in Velociti® mode
*Note 2: The bi-color LED functionality is not available on the GWF-7075 panel.
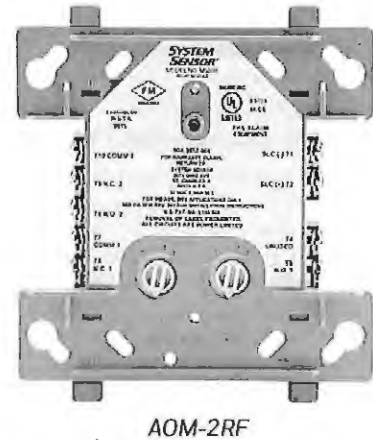
# Velociti Series® AOM-2RF Technical Specifications

## SYSTEMS

**Supervisory Current:** .000375 amps.
**Average Operating Current:**
　255 uA (Velociti Mode)
　230 uA (CLIP Mode)
**Alarm Current:** .0065 amps.
**Operating Temperature:** 32° to 120° F (0° to 49° C)
**Relative Humidity:** 10 to 93% relative humidity (non-condensing)
**Dimensions:** 4 1/2" H x 4" W x 1 1/4"
　　　　　　(11.4 x 10.2 x 3.2 cm)

### TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

## STANDARDS

The Velociti Series® AOM-2RF is designed to comply with the following standard:
**UL Standard:** UL 864 9th Edition

### AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
**UL:** S1913
**FM:** 3023594
**FDNY:** COA-219-02-E Vol. VI
**CSFM:** 7300-1703:0102
**ISO 9001 Certification**

For a complete listing of all compliance approvals and certifications, please visit: http://www.gamewell-fci.com/en-US/documentation/Pages/Listings.aspx

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## For more information

Learn more about Gamewell-FCI's Velociti Series® AOM-2RF and other products available by visiting www.Gamewell-FCI.com

**Honeywell**

# Velociti® Series 3 Detectors

Photoelectric Detectors

## Description

The Gamewell-FCI, Velociti® Series 3 intelligent photoelectric detectors with integral communication provide point location for alarm communication and selective maintenance. Designed in a modern bright white color, the Velociti Series 3 is aesthetically pleasing for today's contemporary buildings.

The Velociti Series 3 smoke detectors are intelligent addressable detectors with point ID capability that enable each detector address to be set with rotary address switches providing exact device locations. The photoelectric detector continually monitors the detected temperature and reports it to the fire alarm control panel. The modern design and expanded color options support a variety of contemporary aesthetic demands. In addition, each detector is constructed for exceptional installation and maintenance efficiency.

The Gamewell-FCI, ASD-PL3 photoelectric detector's re-designed optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards. The sensitivity of Velociti series detectors can be programmed using the control panel software to suit the environment. The ASD-PL3R photoelectric detector is also remote test capable that may be used with a DNR (DNRW) duct smoke detector housing. The ASD-PTL3 multi-sensor detector offers either photoelectric detection or thermal detection through dual electronic thermistors at 135°F fixed temperature thermal sensing.

For legacy installations, service detectors are available in the classic ivory color that will operate in both Velociti and CLIP protocol for backwards compatibility. Service models are designated by the -IV part number after the detector model.

**Note:** Although the E3 Series® and S3 Series panels support both the Velociti® and CLIP™ protocols, the GWF-7075 panel does not support the CLIP protocol. To obtain a complete list of panels that are listed to Velociti Series 3 detectors, refer to the Compatibility Addendum for Gamewell-FCI Manuals, P/N:9000-0427-L8.

Photoelectric Detector

## FEATURES & BENEFITS

- Complies with UL® Standard 268 7th Edition
- Designed with a new profile to offer modern and improved aesthetics
- Contains a built-in functional test switch activated by external magnet
- Supports a low standby current
- Provides rotary address switches (01-159)
- Supplies optional relay, isolator, or sounder bases (standard or low frequency)
- Includes dual LEDs for 360° visibility
- Offers expanded color options

## Ordering Information

NOTE: "-IV" suffix indicates Ivory color model.

NOTE: "-BL" suffix indicates Black color model.

NOTE: "WH" suffix indicates Bright White color model.

ASD-PL3: Photoelectric smoke detector, bright white, Velociti

ASD-PL3R: Photoelectric smoke detector, remote test capable, for use with DNR(W) duct smoke detectors, bright white, Velociti

ASD-PTL3: Photoelectric smoke detector with thermal sensing, bright white, Velociti

ASD-PL3-IV : Photoelectric smoke detector, ivory, Velociti/CLIP

ASD-PL3R-IV: Photoelectric smoke detector, remote test capable, for use with DNR(W) duct smoke detectors, ivory, Velociti/CLIP

ASD-PTL3-IV : Photoelectric smoke detector with thermal sensing, ivory, Velociti/CLIP

### Intelligent Bases

For details on intelligent bases, refer to Data Sheet P/N: 9021-60540.

Note: "IV" suffix indicates Flashscan and CLIP devices. "WH" suffix indicates bright white

B501-WHITE: 4" Flangeless mounting base, bright white

B501-WHITE-BP: 4" Flangeless mounting base bulk pack, bright white

B501-IV: 4" Flangeless mounting base, ivory

B300-6: 6" Flanged mounting base, bright white

B300-6-IV: 6" Flanged mounting base, ivory

B300-6-BP: 6" Flanged mounting base bulk (Pack of 10)

B200SR-WH: Standard sounder base, bright white

B200SR-IV: Standard sounder base, ivory

B200S-WH: Intelligent addressable sounder base, bright white

B200S-IV: Intelligent addressable sounder base, ivory

B200SR-LF-WH: Standard low frequency sounder base, bright white

B200SR-LF-IV: Standard low frequency sounder base, ivory

B200S-LF-WH: Intelligent addressable low frequency sounder base, bright white

B200S-LF-IV: Intelligent addressable low frequency sounder base, ivory

B224RB-WH: Relay base, bright white

B224RB-IV: Relay base, ivory

B224BI-WH: Isolator base, bright white

B224BI-IV: Isolator base, ivory

DNR: Intelligent duct detector housing, non-relay

DNRW: Intelligent duct detector housing, non-relay, watertight

## Ordering Information

### Accessories

SMB600: Surface Mounting Kit (flanged)

TR300: Accessory Flange Ring for B300 6" Base, bright white

TR300-IV: Accessory Flange Ring for B300 6" Base, ivory

RA100Z: Remote LED annunciator, 3-32 VDC

The annunciator mounts to a U.S. single-gang electrical box. For use with B501 and B300-6.

CK300: Bright White detector kit (Pack of 10)

CK300-IR: White, detector color kit for use with MCS-COF Series Detectors. (Pack of 10)

CK300-IV: Ivory, detector color kit. (Pack of 10)

CK300-IR-IV: Ivory, detector color kit for use with MCSCOF Series detectors. (Pack of 10)

CK300-BL: Black detector kit. (Pack of 10)

CK300-IR-Bl: Black, detector color kit for use with MCSCOF Series detectors. (Pack of 10)

M02-04-01: Detector test magnet.

M02-09-00: Test magnet with telescoping handle.

XR2B: Detector removal tool. Allows the installation and/or removal of the detector heads from the bases in high ceiling applications.

XP-4: Extension pole for XR2B. Shipped with three, 5-foot (1.524,m) sections.

# Velociti® Series 3 Detectors Technical Specifications

## SYSTEMS

**Photoelectric Intelligent Detector:**
**Physical Specifications**
**Height:** 2.0 inches (51 mm) installed in B300-6 base
**Diameter:**
  6.1 inches (15.49 cm) installed in B300-6 base
  4 inches (10.16 cm) installed in B501 base
**Shipping Weight:** 3.4 oz (96.4 g)
**Operating Temperature Range:**
  **Photo:** 32° F to 122° F (0° C to 50° C)
  **Photo in Duct Applications:** -4° F to 158° F
                          (-20° C to 70° C)
  **Photo with Thermal:** 32° F to 100° F (0° C to 38° C)
**Operating Humidity Range:** 10% to 93%
                          non-condensing
**Rate-of-Rise Detection:** Responds to greater than
15°F/minute or 135°F (8.3° C/minute or 57°C
**Air Velocity Range:** 0 to 4,000 ft/min
                (0 to 1219.2 m/min)
**Electrical Specifications**
  **Voltage Range:** 15 to 32 VDC
  **Standby Current (@ 24 VDC):** 200 UA (one
communication every 5 seconds with green LED
enabled)
  **Max Alarm Current (max.):** 2 mA @ 24 VDC (one
communication every 5 seconds with red LED
enabled)
  **Max Current (max.):** 4.5 mA @ 24 VDC (one
communication every 5 seconds with amber LED
enabled)
  **Isolator Load Rating:** 0.0063

## STANDARDS

The Velociti® Series 3 Photoelectric Detectors are
designed to comply with the following standard:
**UL Standard:** UL 268

## AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules
specified in this document. In some cases, certain
modules or applications may not be listed by certain
approval agencies, or listing may be in process.
Consult factory for latest listing status.
**UL:** S2332
**FM:** 3023594
**MEA FDNY:** COA-219-02-E Vol. VI
**CSFM:** 7272-1703:0501
**ISO 9001 Certification**

For a complete listing of all
compliance approvals and
certifications, please visit:
http://www.gamewell-
fci.com/en-US/
documentation/Pages/
Listings.aspx

E3 Series®, Velociti® and
Gamewell-FCI® are registered
trademarks of Honeywell
International Inc.

UL® is a registered trademark
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Inc.

This document is not intended
to be used for installation
purposes. We try to keep our
product information up-to-
date and accurate. We cannot
cover all specific applications
or anticipate all requirements.
All specifications are subject to
change without notice.

## For more information

Learn more about Gamewell-FCI's Velociti® Series 3 Detectors
and other products available by visiting www.Gamewell-FCI.com

# Honeywell

# INTELLIGENT BASES

## Standard, Relay, Isolator, Sounder, and Low Frequency Sounder Bases

To meet local code and application requirements, Gamewell-FCI® offers standard 4" and 6" bases, as well as specialty base designs including relay, isolator, sounder and low frequency sounder bases that are UL listed for low frequency operation and comply with NFPA 72 requirements for sleeping spaces for the new Gamewell-FCI Series of addressable detectors as well as previous generations.

The standard 4" and 6" bases offer a plug-in detector base intended for use in intelligent systems, with screw terminals provided for power (+ and –), and remote annunciator connections. Communication takes place over the power (+ and –) lines. The 4" base offers a compact design while the 6" base provides compatibility with a wider range of junction boxes.

The specialty bases support application driven requirements. These bases employ a separate mounting plate that installs on various junction box sizes to eliminate unsightly surface-mount boxes. The mounting plate enables pre-wiring of all connections to speed and simplify installation.

Relay bases (B224RB-WH/B224RB-IV) provide one form-C contact relay for control of auxiliary functions, such as door closure and elevator recall. The relay can operate in two different modes (short and long delay). The activation time for the short delay is 60-100 milliseconds, while the activation time for the long delay is 6-10 seconds. A shunt with pin headers, located on the base PC board, is used to set the delay timing.

Isolator bases (B224BI-WH/B224BI-IV) allow the Signaling Line Circuit (SLC) loop to operate under fault conditions created from a short circuit preventing an entire communication loop from being disabled. The base isolates the section of the loop containing the short circuit from the remainder of the circuit and automatically restores when the fault is corrected.

Sounder and low frequency (-LF) sounder bases are designed for new and existing dwelling unit applications. They offer maximum flexibility in installation, configuration, and operation to meet or exceed UL 268 and UL 464 requirements. The low frequency sounder bases are designed to meet the NFPA 72 sleeping space requirement to produce a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent. Studies show that a lower frequency, centered around 520 Hz, is the most ideal to wake sleeping occupants, even those with mild to severe hearing loss.

B300-6 Standard 6" Base (White)

B200S-WH Sounder Base (White)

B501-WHITE Flangeless 4" Base (White)

B501-BL Flangeless 4" Base (Black)

## FEATURES AND BENEFITS

- Bases enable quick and secure detector plug-in
- SEMS Screws provide easy wiring connection
- UL 268 compliant
- Support for 12-24 AWG provides installation flexibility
- Multiple base formats meet application requirements

- Standard white color with ivory and black options
- Mechanical locking feature restricts removal of attached sensor head
- Specialty Base Features:
- Pre-wired mounting plate simplifies installation
- Application driven feature sets

- Sounder bases both UL268 and UL464 compliant

## Honeywell

Gamewell FCI FIRE CONTROL INSTRUMENTS

The B200S sounder and LF sounder bases (B200S-WH/B200S-IV/B200S-LF-WH/B200S-LF-IV) adopt the same address as the detector, but use a unique device type on the loop. The Fire Alarm Control Panel (FACP) can use that address to command an individual sounder — or a group of sounders — to activate. The command set from the FACP can be tailored to multiple event-driven tone outputs allowing selection of volume (75 or 85 dBA), tone (ANSI Temporal 3, ANSI Temporal 4, or March Time) and group. In addition, some FACPs will enable custom tone patterns. The B200S series sounder bases recognize the System Sensor synchronization protocol. This enables them to be used as a component of the general evacuation signal — along with other System Sensor AV appliances — when connected to a power supply or FACP output capable of generating the System Sensor synchronization pulses.

The B200SR sounder and LF sounder bases (B200SR-WH/B200SR-IV/B200SR-LF-WH/B200SR-LF-IV) are fully compatible with existing B501BH Series sounder base installations. The device enables users to select one of two B501-supported tones (ANSI Temporal 3 or Continuous) through a jumper.

# PRODUCT LINE INFORMATION

## INTELLIGENT BASES

"-IV" suffix indicates Ivory color model.

"-BL" suffix indicates Black color model.

"-WH" and "-WHITE" suffix indicates White color model.

**B210LP:** Flanged mounted base.

**B210LPA:** Same as B210LP; ULC listed.

**B210LPBP:** Bulk pack of B210LP, contains 10.

**B300-6:** White, 6" base, standard flanged low-profile mounting base

**B300-6-BP:** Bulk pack of B300-6, package contains 10

**B300-6-IV:** Ivory,6" base, standard flanged low-profile mounting base.

**B501-WHITE:** White, 4" standard European flangeless mounting base. UL/ULC listed

**B501-WHITE-BP:** Bulk pack of B501-WHITE, contains 10

**B501-BL:** Black, 4" standard European flangeless mounting base

**B501-IV:** Ivory color, 4" standard European flangeless mounting base

**B224RB-WH:** White, relay base

**B224RB-IV:** Ivory, relay base

**B224BI-WH:** White, isolator detector base

**B224BI-IV:** Ivory isolator detector base

**B200S-WH:** White, Intelligent addressable sounder base capable o producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone; Uses Velociti® protocol

**B200S-IV:** Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone; Uses Velociti® protocol

**B200S-LF-WH:** White, Low Frequency Intelligent, programmable sounder base, produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement

**B200S-LF-IV:** Ivory, Low Frequency Intelligent, programmable sounder base, produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement

**B200SR-WH:** White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone; Intended for retrofit applications

**B200SR-IV:** Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone; Intended for retrofit applications

**B200SR-LF-WH:** White, Low Frequency Intelligent, programmable sounder base, produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement; intended for retrofit applications

**B200SR-LF-IV:** Ivory, Low Frequency Intelligent, programmable sounder base, produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications.

## MOUNTING KITS AND ACCESSORIES

**TR300:** White, replacement flange for B210LP, B300-6 base

**TR300-IV:** Ivory, replacement flange for B210LP, B300-6-IV base

**RA100Z:** Remote LED annunciator, 3 – 32 VDC, mounts to a U.S. single-gang electrical box; For use with B501 and B300-6

**M02-04-00:** Test magnet

**M02-09-00:** Test magnet with telescoping handle

**CK300:** White, detector color kit, pack of 10

**CK300-IV:** Ivory, detector color kit, pack of 10

**CK300-BL:** Black, detector color kit, pack of 10

## JUNCTION BOX SELECTION GUIDE

| Base Models | Single Gang | Double Gang | 3.5" Oct. | 4.0" Oct. | 4.0" Square | 4.0" Square with 3.0" mud ring | 50 mm | 60 mm | 70 mm | 75 mm |
|---|---|---|---|---|---|---|---|---|---|---|
| B200S,B200SR | Yes | Yes | Yes | Yes | Yes | Yes | No | No | No | No |
| B501 | No | No | Yes | No | No | Yes | Yes | Yes | Yes | No |
| B300-6 | Yes | No | Yes | Yes | Yes | Yes | No | No | No | No |
| B224BI, B224RB | Yes | Yes | Yes | Yes | Yes | Yes | No | No | No | No |

Box depth contingent on base and wire size.
Refer to National Electric Code or applicable local codes for appropriate recommendations.
Applies to all model variants "BL", "-LF", "-IV", "-WH", and "-WHITE". See Product Line Information for detailed model description.

# INTELLIGENT BASES TECHNICAL SPECIFICATIONS

## ELECTRICAL

**For B300-6 Series bases:**
- **Operating voltage:** 15 to 32 VDC
- **Standby current:** 170 µA maximum

**For B501 Series bases:**
- **Operating voltage:** 15 to 32 VDC
- **Standby current:** 150 µA maximum

**For B200 Series bases:**
- **External supply voltage:** 16 to 33 VDC (FWR)
- **Standby current:** 500 µA maximum
- **Alarm current for B200S(-IV)(-WH):**
  35 mA maximum at high-volume setting
  15 mA maximum at low-volume setting
- **Alarm current for B200S-LF(-IV)(-WH) High-volume setting:**
  70 mA maximum @ 33.0 VDC
  90 mA maximum @ 24.0 VDC
  140 mA maximum @16.0 VDC
- **Alarm current for B200S-LF(-IV)(-WH) Low-volume setting:**
  15 mA maximum @ 33.0 VDC
  20 mA maximum @ 24.0 VDC
  25 mA maximum @ 16.0 VDC
- **Alarm current for B200SR(-IV)(-WH):** 35 mA maximum
- **Alarm current for B200SR-LF(-IV)(-WH):**
  65 mA maximum @ 33.0 VDC
  90 mA maximum @ 24.0 VDC
  125 mA maximum @16.0 VDC

**SLC operating voltage:** 15 to 32 VDC

**SLC standby current:** See applicable sensor specification

**Sound output:** Greater than 85 dBA minimum; measured in a UL reverberant room at 10 feet, 24 Volts (continuous tone)

**For B224BI, B224RB (-IV) (-WH) bases:**
- **Operating voltage:** 15 to 32 VDC (powered by SLC)
- **Standby ratings:** <450 µA maximum @ 24 VDC
- **Set time: (B224RB(-IV)(-WH) only):** short delay 60-100 msec; long delay 6-10 seconds
- **Reset time: (B224RB/-IV/-WH only):** 20 milliseconds maximum
- **Relay characteristics: (B224RB/-IV/-WH only):** two-coil latching relay; one Form-C contact; ratings (UL/CSA): 0.9 A @ 125 VAC, 0.9 A @ 110 VDC, and 3.0 A @ 30 VDC

## PHYSICAL

**Note:** Specifications applies to all model variants "-BL", "-LF", "-IV", -WH, -WHITE. See Product Line Information for detailed model description.

**Oiameter:**
- **B501-WHITE:** 4" (10.16 cm)
- **B300-6, B210LP:** 6.1" (15.49 cm)
- **B224BI, B224RB:** 6.2" (15.748 cm)
- **B200S, B200SR:** 6.875" (17.46 cm)

**Wire gauge:**
- **B224BI, B224RB:** 14 to 24 AWG
- **B300-6, B210LP, B501, B200S, B200SR** 12 to 24 AWG

**Temperature range:**
- **B224BI, B224RB, B200S, B200SR:** 32°F to 120°F (0°C to 49°C)
- **B300-6, B210LP, B501:** -4°F to 150°F (-20°C to 66°C)

**Humidity range:** 10% to 93% RH, non-condensing

**System temperature and humidity ranges:**
This system meets NFPA requirements for operation at 0°C to 49°C (32°F to 120°F); and at a relative humidity (non-condensing) of 85% at 30°C (86°F) per NFPA, and 93% ± 2% at 32°C ± 2°C (89.6°F ± 1.1°F) per ULC. However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and all peripherals be installed in an environment with a nominal room temperature of 15°C to 27°C (60°F to 80°F).

## AGENCY LISTINGS AND APPROVALS

The listings and approvals below apply to intelligent bases as noted. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

**UL Listed:** S911

**FM Approved**

**CSFM:** 7300-1653:0109, 7300-1653:0126, 7300-1653:0213, 7300-1653:0238

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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

Country of origin: Mexico

# Gamewell FCI
## FIRE CONTROL INSTRUMENTS
### by Honeywell

# InnovairFlex™ Series DNR/DNRW Duct Smoke Housing

## Description

The InnovairFlex™ Series, DNR intelligent, non-relay photoelectric duct smoke detector, and the DNRW watertight, non-relay photoelectric duct smoke detector feature a pivoting housing that fits both square and rectangular footprints. These detectors are capable of mounting to a round or rectangular duct. The DNR/DNRW detectors can be used with the E3 Series® and 7100 Series Systems.

Note: The InnovairFlex™ Series, DNR requires the Velociti® Series, ASD-PL2FR Sensor and AOM-2RF, if relays are required for the fan control.

The DNRW duct smoke detector, with its NEMA 4 rating, is Listed as a watertight enclosure providing protection against falling dirt, rain, and windblown dust, splashing and hose directed water. These features allow operators to use the detector in the most extreme environments.

The units sense smoke in the most challenging conditions, operating in airflow speeds of 100 to 4,000 feet per minute, temperatures of -4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing).

An improved cover design isolates the sensor head from the low-flow feature for simple maintenance. A cover tamper feature was added to indicate a trouble signal for a removed or improperly installed sensor cover. The InnovairFlex housing provides a 3/4-inch conduit knockout and ample space to facilitate easy wiring and mounting of the relay module.

The InnovairFlex duct smoke detector can be customized to meet local codes and specifications without additional wiring. The new InnovairFlex product line is compatible with all previous Innovair models, including remote test accessories.

**WARNING:** Duct smoke detectors have specific limitations. **DUCT SMOKE DETECTORS ARE:**
NOT a substitute for an open area smoke detector,
NOT a substitute for early warning detection, and NOT a replacement for a building's regular fire detection system.
Refer to NFPA 72 and 90A for additional duct smoke detector 2911 application information.

E3 Series® and Velociti® are registered trademarks and InnovairFlex™ is a trademark of Honeywell International, Inc.

UL® is a registered trademark of Underwriters Laboratories Inc.

## Intelligent Non-Relay Photoelectric Duct Smoke Housing



**InnovairFlex-DNR/DNRW**

## Features
- Photoelectric, integrated low-flow technology
- Air velocity rating from 100 ft/min to 4,000ft/min (0.5m/s to 20.32m/sec)
- Versatile mounting options: square or rectangular configuration
- Broad ranges for operating temperature (-4°F to 158°F) and humidity (0% to 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- New Cover tamper signal
- Increased wiring space with a newly added 3/4-inch conduit knockout
- Available space within housing to accommodate the mounting of the relay module
- Easily accessible code wheels on sensor head (sold separately)
- Clear cover for convenient visual inspection
- UL® 268A Listed
- Remote testing capability
- Requires SLC line power only
- NEMA Type 4 UL Listed for non-hazardous indoor and outdoor applications (DNRW only)
- UV Resistant, UL® Listed housing and cover material (DNRW only)

SIGNALING

UL LISTED S911 | FM APPROVED 3029700 | MSFM 2202 2207 | 7272-1703:0121 | ULC S911

## Architectural/Engineering Specifications

The air duct smoke detector shall be a System Sensor InnovairFlex™ DNR Intelligent Non-Relay Photoelectric Duct Smoke Detector and DNRW Watertight NEMA4 Duct Smoke Detector. The detector housing shall be UL Listed per UL 268A specifically for use in air handling systems. The flexible housing of the duct smoke detector fits both square and rectangular footprints. The detector shall operate at air velocities of 100 ft/min to 4,000 ft/min (0.5 m/sec to 20.32 m/sec). The unit shall be capable of providing a trouble signal in the event that the sensor cover is removed or improperly installed. It shall be capable of local testing via magnetic switch or remote testing using the RTS151KEY remote test station. Terminal connections shall be of the strip and clamp method suitable for 12–18 AWG wiring.

## Physical Specifications

**Size:**

| | |
|---|---|
| **Rectangular Dimensions:** | 14.38 in (37 cm) Length; 5 in (12.7 cm) Width; 2.5 in (6.6 cm) Depth |
| **Square Dimensions:** | 7.75 in (19.7 cm) Length; 9 in (22.9 cm) Width; 2.5 in (6.35 cm) Depth |
| **Weight:** | 1.6 lb (0.73 kg) |
| **Environmental Rating:** | NEMA4 (DNRW only) |
| **Operating Temperature Range:** | –4° to 158°F (–20° to 70°C) |
| **Storage Temperature Range:** | –22° to 158°F (–30° to 70°C) |
| **Operating Humidity Range:** | 0% to 95% relative humidity non-condensing |
| **Air Duct Velocity:** | 100 to 4000 ft/min (0.5 to 20.32 m/sec) |
| **DCOIL - (if included)** | 17.5 - 26.4 VDC .95mA max. |

## Electrical Ratings

For information on the electrical specifications, refer to the InnovairFlex DNR Duct Smoke Detector Installation Instructions, P/N I56-3051-001R.

## Accessory Current Loads at 24 VDC

| Device | Standby | Trouble |
|---|---|---|
| RA100Z | 0 mA | 12 mA Max. |
| RTS151/RTS151KEY | 0 mA | 12 mA Max. |

## Installing the InnovairFlex Sampling Tube

The InnovairFlex sampling tube may be installed from the front or back of the detector. The tube locks securely into place and can be removed by releasing the front or rear locking tab. (Figure 3 illustrates the front locking tab).



| Figure 1 | Figure 2 | Figure 3 |
|---|---|---|

## Wiring for Intelligent Non-Relay Duct Smoke Detector



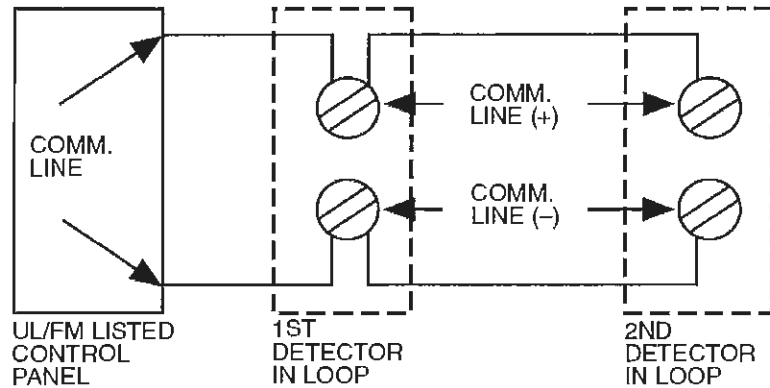**Figure 4 System Wiring Diagram for DNR**



+ RA

− RA

RA100Z

(+)

(-)

REMOTE ALARM LED
OPTION 1 PER UNIT

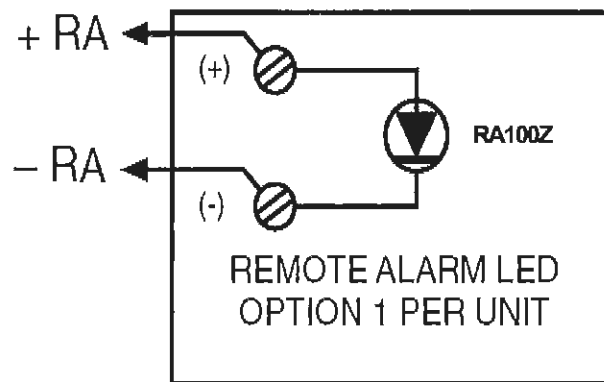**Figure 5 DNR to RA100Z**

DNR TO RTS451/RTS451KEY/RTS151/
RTS151KEY WITH "R" REMOTE TEST
CAPABLE DETECTOR HEAD OPTION:



TEST COIL +
TEST COIL -
COMM +
OUT (CONV ONLY) +
COMM -
RA/RTS -
RA +
RTS +

RTS451/RTS451KEY
RTS151/RTS151KEY

JUMPER

TEST COIL +
TEST COIL -
COMM +
OUT (CONV ONLY) +
COMM -
RA/RTS -
RA +
RTS +

EXTERNAL
(-) POWER (+)
SUPPLY

RT151/RTS151KEY
REMOTE TEST STATION

LED OPTION
1 PER UNIT

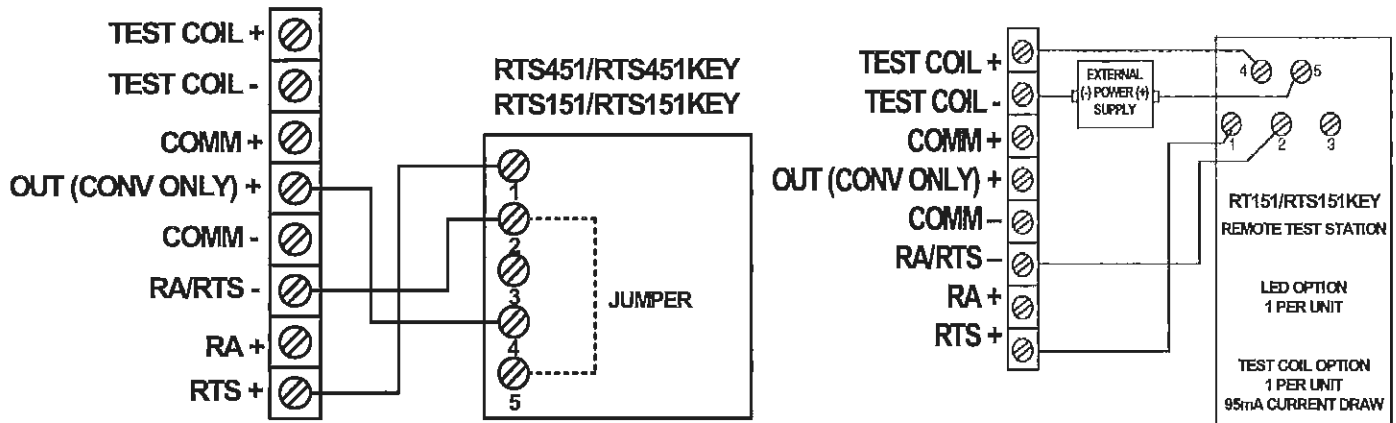TEST COIL OPTION
1 PER UNIT
95mA CURRENT DRAW

**Figure 6 DNR to RTS151/RTS151 Key**

### Important Notes:
- The use of either RTS151 or RTS151KEY requires the installation of an accessory coil, DCOIL, sold separately. For additional information, refer to the DNR or DNRW Duct Smoke Detector Installation Instructions, P/N I56-3051-001R and the Duct Application Smoke Detectors Application Guide.
- The RTS151/RTS151KEY test coil circuit requires an external 24 VDC power supply which must be UL Listed.
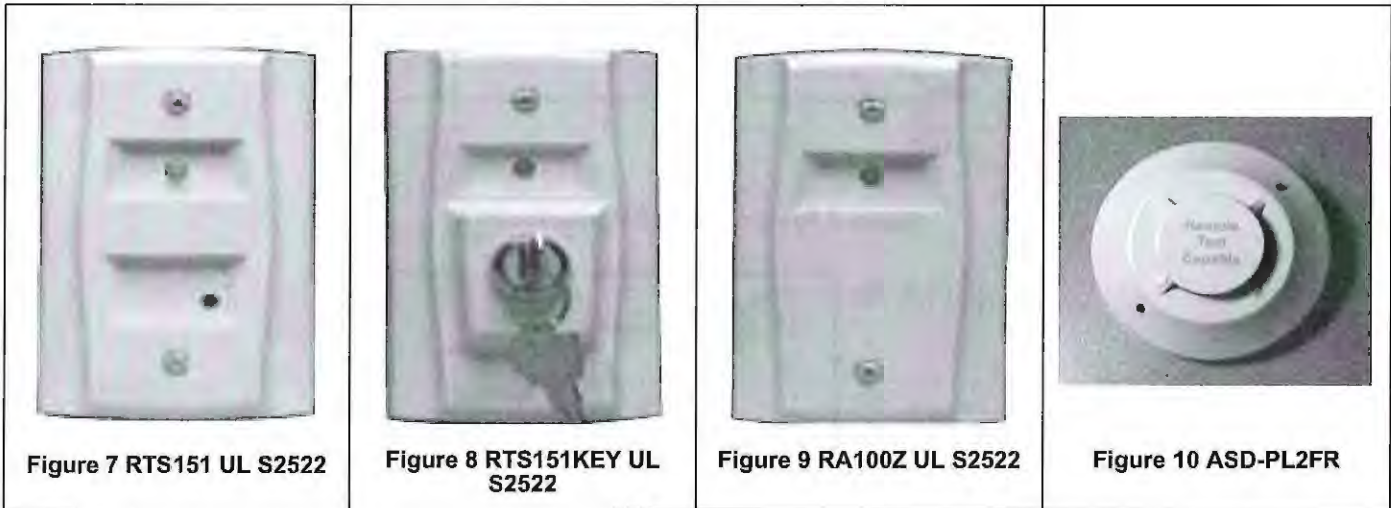
## Accessories

System Sensor provides system flexibility with a variety of accessories, including two remote test stations and different means of visible and audible system annunciation. As with our duct smoke detectors, all duct smoke detector accessories are UL Listed.



| Figure 7 RTS151 UL S2522 | Figure 8 RTS151KEY UL S2522 | Figure 9 RA100Z UL S2522 | Figure 10 ASD-PL2FR |
|---|---|---|---|

## Ordering Information

| Part Number | Description |
|---|---|
| DNR | Intelligent non-relay photoelectric low-flow duct smoke detector |
| DNRW | Watertight intelligent non-relay photoelectric low-flow duct smoke detector |
| ASD-PL2FR | Intelligent photoelectric smoke sensor with remote test capability in duct applications |

### Accessories

| Part Number | Description |
|---|---|
| DCOIL | Remove test coil required with RTS151/RTS151151KEY |
| DST1 | Metal sampling tube duct width up to 1 ft (0.3m) |
| DST1.5 | Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m) |
| DST1.5 | Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m) |
| DST3 | Metal sampling tube duct widths 2 ft to 4 ft (0.6 to 1.2 m) |
| DST5 | Metal sampling tube duct widths 4 ft to 8 ft (1.2 to 2.4 m) |
| DST10 | Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m) |
| DH400OE-1 | Weatherproof enclosure |
| ETX | Metal exhaust tube duct width 1ft (0.3m) |
| M02-04-00 | Test magnet |
| P48-21-00 | End cap for metal sampling tubes |
| RA100Z/RA100ZA | Remote annunciator alarm LED |
| RTS151 | Remote test station |
| RTS151KEY | Remote test station with key lock |

# L-Series, Indoor Strobes and Horn Strobes

## Indoor Selectable-Output Strobes/Horn Strobes for Ceiling Applications

### General

The L-Series audible visible notification products offer the most versatile and easy-to-use product line of horns, strobes, and horn strobes in the industry. This product includes lower current draws and a modern aesthetic design which reduce installation times and maximize profits. In addition, the L-Series offers white and red plastic housings and wall and ceiling mounting options.

Similar to the entire L-Series product line, the ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying the installation. All devices offer a plug-in design so that there is minimal intrusion into the backbox. These features make installations fast and foolproof while eliminating costly and time-consuming ground faults.

To simplify the installation, the L-Series uses a universal mounting plate allowing you to mount the devices to a wide array of backboxes. With an on-board shorting spring, Installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to suit a wide range of application requirements using the following:

- Field-selectable candela settings
- Automatic selection of 12- or 24-volt operation
- Rotary switch for horn tones with two volume selections

*Ceiling Horn Strobe*

## FEATURES & BENEFITS

- Listed for ceiling mounting only

- Features a plug-in design so that there is minimal intrusion into the backbox

- Designed with a tamper-resistant construction

- Provides an automatic selection of 12- or 24-volt operation at 15 and 30 candela

- Uses field-selectable candela settings on the following ceiling units:
  - 15
  - 30
  - 75
  - 95
  - 115
  - 150
  - 177

- Produces horn rated at 88+ dBA at 16 volts

- Offers a rotary switch for horn tone and two volume selections

- Includes a universal mounting plate for ceiling units

- Contains a mounting plate with a shorting spring feature that checks the wiring continuity before device installation

- Compatible with MDL3 sync module

- Supports electrical compatibility with the legacy SpectrAlert and the SpectrAlert Advance devices

## Architect/Engineer Specifications

### General

The L-Series ceiling-mount strobes and horn strobes shall mount to any of the following:

- double-gang backbox
- 4-inch octagon backbox
- a standard 4 x 4 x 1 1/2-inch backbox

Two-wire products shall also mount to a single-gang compact 2 x 4 x 17/8-inch backbox. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate.

Also, the L-Series products, when used with the Sync•Circuit Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When it is used with the Sync•Circuit Module, the following occur:

- 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts.
- 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts.

The Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply.

Ceiling strobes and horn strobes shall have the following field-selectable candela settings including:

- 15
- 30
- 75
- 95
- 115
- 150
- 177

### Strobe

The strobe shall be an L-Series Model _____ listed to UL Standard 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

### Horn Strobe Combination

The horn strobe shall be an L-Series Model _____ listed to UL Standard 1971 and UL Standard 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate o a coded or non-coded power supply.

### Synchronization Module

The module shall be a Sync•Circuit model MDL3 listed to UL Standard 464 and shall be approved for fire protective service. The module shall synchronize the L-Series strobes at 1 Hz and synchronize horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single-pair of wires.

The module shall mount to a 4 11/6 x 4 11/16 x 2 1/8-inch backbox. The module shall also control two Style Y (Class B) circuits or one Style Z (Class A) circuit. The module shall synchronize multiple zones. Daisy-chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

### UL Current Draw

Table 1 lists the UL maximum strobe current draw.

| Candela | 8-17.5 Volts DC | 16-33 Volts DC | FWR |
|---------|-----------------|----------------|-----|
| 15 | 87 | 41 | 60 |
| 30 | 153 | 63 | 86 |
| 75 | N/A | 111 | 142 |
| 95 | N/A | 134 | 164 |
| 115 | N/A | 158 | 191 |
| 150 | N/A | 189 | 228 |
| 177 | N/A | 226 | 264 |

## Table 1: UL Maximum Strobe Current Draw (mA RMS)

## UL Current Draw Data

Table 2 lists the maximum UL Current Draw (mA RMS) allowed for 2-Wire Horn Strobes.

| DC Input | 8-17.5 Volts | | 16-33 Volts | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 15cd | 30cd | 15cd | 30cd | 75cd | 95cd | 115cd | 150cd | 177cd |
| Temporal High | 103 | 167 | 71 | 90 | 143 | 165 | 187 | 217 | 254 |
| Temporal Low | 96 | 165 | 54 | 71 | 137 | 161 | 185 | 211 | 249 |
| Non-Temporal High | 106 | 173 | 71 | 90 | 141 | 165 | 187 | 230 | 273 |
| Non-Temporal Low | 95 | 166 | 54 | 71 | 124 | 161 | 170 | 216 | 258 |
| 3.1K Temp Hi | 111 | 164 | 69 | 94 | 147 | 163 | 184 | 229 | 257 |
| 3.1K Temp Low | 103 | 163 | 54 | 88 | 143 | 155 | 185 | 212 | 252 |
| 3.1K Non-Temporal High | 111 | 172 | 69 | 94 | 144 | 164 | 202 | 229 | 271 |
| 3.1K Non-Temporal | 103 | 169 | 54 | 88 | 131 | 155 | 187 | 217 | 259 |

| FWR Input | 16-33 Volts | | | | | | |
|---|---|---|---|---|---|---|---|
| | 15cd | 30cd | 75cd | 95cd | 115cd | 150cd | 177cd |
| Temporal High | 107 | 135 | 179 | 198 | 223 | 254 | 286 |
| Temporal Low | 78 | 101 | 151 | 172 | 199 | 229 | 262 |
| Non-Temporal High | 107 | 135 | 179 | 198 | 223 | 254 | 286 |
| Non-Temporal Low | 78 | 101 | 151 | 172 | 199 | 229 | 262 |
| 3.1K Temporal High | 108 | 135 | 179 | 200 | 225 | 256 | 289 |
| 3.1K Temporal Low | 79 | 101 | 150 | 171 | 196 | 229 | 260 |
| 3.1K Non-Temporal High | 108 | 135 | 179 | 200 | 225 | 255 | 289 |
| 3.1K Non-Temporal Low | 79 | 101 | 150 | 171 | 196 | 229 | 260 |

Table 2 UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe

## Horn Strobe Tones and Sound Output Data

Table 3 lists the horn strobe tones and sound output date.

| Switch Position | Sound Pattern | dB | 8-17.5 Volts DC | 16-33 Volts DC | FWR |
|---|---|---|---|---|---|
| 1 | Temporal | High | 84 | 89 | 89 |
| 2 | Temporal | Low | 75 | 83 | 83 |
| 3 | Non-Temporal | High | 85 | 90 | 90 |
| 4 | Non-Temporal | Low | 76 | 84 | 84 |
| 5 | 3.1 KHz Temporal | High | 83 | 88 | 88 |
| 6 | 3.1 KHz Temporal | Low | 76 | 82 | 82 |
| 7 | 3.1 KHz Non-Temporal | High | 84 | 89 | 89 |
| 8 | 3.1 KHz Non-Temporal | Low | 77 | 83 | 83 |

Table 3: Horn Strobe Tones and Sound Output Data

## L-Series Dimensions

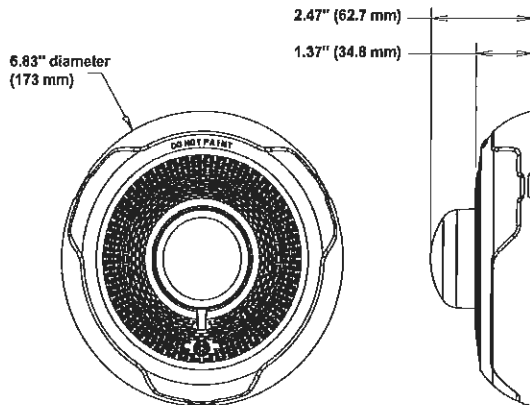Figure 1 illustrates the dimensions for the ceiling-mount horn strobes.



*Figure 1 Ceiling-Mount Horn Strobes*

## L-Series Dimensions

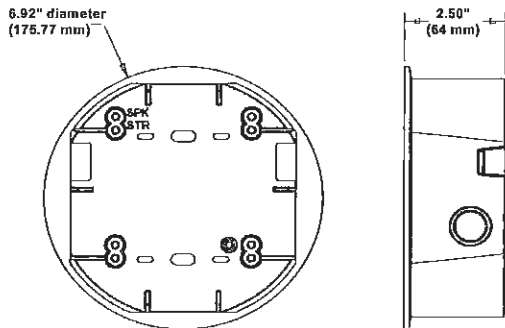Figure 2 illustrates the dimensions for the ceiling backbox surface mount backbox.



*Figure 2 Ceiling-Surface-Mount Backbox*

## L-Series Ordering Information

**Ceiling Horn Strobes:**

**PC2RL:** 2-Wire, Horn Strobe, Red

**PC2WL:** 2-Wire, Horn Strobe, White

**PC4RL:** 4-Wire Ceiling Horn Strobe, Red, FIRE

**PC4WL:** 4Wire Ceiling Horn Strobe, White, FIRE

**Ceiling Strobes:**

**SCRL:** Strobe, Red

**SCWL:** Strobe, White

**SCWL-CLR-ALERT:** Strobe, White, ALERT

## L- Series Dimensions

Figure 3 illustrates the dimensions for the ceiling backbox surface mount backbox.
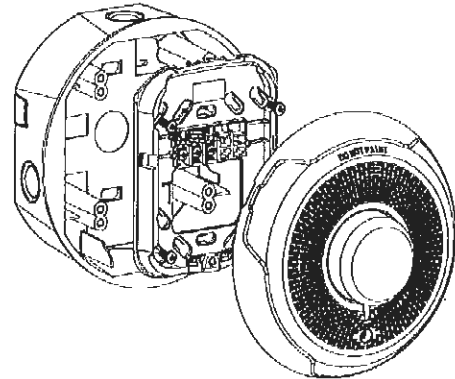


*Figure 3 2-Wire Ceiling Mount Horn Strobes with Ceiling Surface Mount Backbox*

## SL Series Dimensions

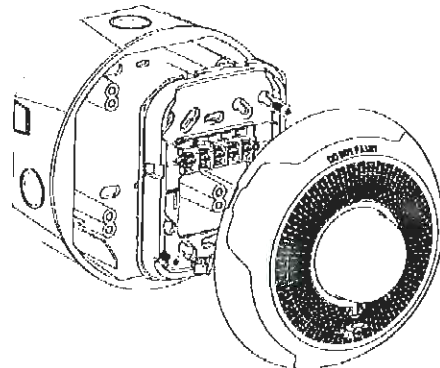Figure 4 illustrates the dimensions for the ceiling backbox surface mount backbox.



*Figure 4 4-Wire Ceiling Mount Horn Strobes with Ceiling Surface Mount Backbox*

## L-Series Ordering Information

**Accessories:**

**TRC-2:** Universal Ceiling Trim Ring Red

**TRC-2W:** Universal Ceiling Trim Ring White

**SBBCRL:** Ceiling Surface Mount Back Box, Red

**SBBCWL:** Ceiling Surface Mount Back Box, White

# L-Series, Indoor Strobes and Horn Strobes Technical Specifications

## SYSTEMS

**Temperature Ranges:**

**Standard Operating Temperature:** 32°F to 120°F (0°C to 49°C)

**Humidity Range:** 10 to 93% non-condensing

**Voltages:**

**Strobe Flash Rate:** 1 flash per second

**Nominal Voltage:** Regulated 12 VDC or regulated 24 DC/FWR[1]

**Operating Voltage Range[2]:** 8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)

**Operating Voltage Range (MDL3):** 8.5 to 17.5V (12 V nominal) or 16.5 to 33 V(24V nominal)

**Wire Gage:**

**Input Terminal Wire Gauge:** 12 to 18 AWG

**Dimensions:**

**Ceiling-Mount Dimensions (including lens):** 6.8" diameter × 2.5" high (173 mm diameter × 64 mm high)

**Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBBCR, SBBCW):** 6.9" diameter x 3.4" high (175 mm diameter x 86 mm high)

**Notes:**

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 30 cd.

## TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

## STANDARDS

The L-Series, Ceiling Strobes and Horn Strobes are designed to comply with the following standard:
**UL Standard:** UL 1971 and UL 464

## AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
UL: S5512, S4011
**CSFM:** 7135-1653:0503
    7125-1653:0504
**ISO 9001 Certification**

For a complete listing of all compliance approvals and certifications, please visit: http://www.gamewell-fci.com/en-US/documentation/Pages/Listings.aspx

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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

## For more information

Learn more about Gamewell-FCI's L-Series, Indoor Strobes and Horn Strobes and other products available by visiting
www.Gamewell-FCI.com

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**Honeywell**

# L-Series, Indoor Strobes and Horn Strobes

## Indoor Selectable-Output Horns, Strobes and Horn Strobes for Wall Applications

### General

The L-Series audible visible notification products offer the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry. In addition, this product includes lower current draws and a modern aesthetic design which reduce installation times and maximize profits.

The following devices offer a variety of design options, so that the L-Series can be used for any application requirement.

- White and red plastic housings
- Standard and small footprint devices
- Plain, FIRE, and FUEGO-printed devices

Similar to the entire L-Series product line, the wall-mount horns, strobes, and horn strobes include a variety of features that increase their application versatility while simplifying the installation. All devices offer a plug-in design so that there is minimal intrusion into the backbox. These features make installations fast and foolproof while eliminating costly and time-consuming ground faults.

To further simplify the installation and protect devices from construction damage, the L-Series uses a mounting plate for all standard and compact models that include an onboard shorting spring. This feature allows Installers to test wiring continuity before the device is installed.

Installers can also easily adapt devices to suit a wide range of application requirements using the following features:

- Field-selectable candela settings
- Automatic selection of 12- or 24-volt operation
- Rotary switch for horn tones with two volume selections

*Wall Horn, Horn Strobe*

# FEATURES & BENEFITS

- Listed for wall mounting only
- Offers small profile devices for horns and horn strobes
- Provides an automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Produces horn rated at 88+ dBA at 16 volts

- Uses field-selectable candela settings on wall units:
  - 15
  - 30
  - 75
  - 95
  - 110
  - 135
  - 185

- Includes a mounting plate for all standard and all compact wall units
- Contains a mounting plate with a shorting spring that checks the wiring continuity before device installation

- Features a plug-in design with minimal intrusion into the backbox
- Designed with a tamper-resistant construction

- Supports a rotary switch for horn tone and two volume selections

## Architect/Engineer Specifications

### General

When it is used with the Sync•Circuit Module, the following occur:

• 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts

• 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts

The Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have the following field-selectable candela settings:

- 15
- 30
- 75
- 95
- 115
- 150
- 177

### Strobe

The strobe shall be an L-Series Model _____ listed to UL Standard 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

### Horn Strobe Combination

The horn strobe shall be an L-Series Model _____ listed to UL Standard 1971 and UL Standard 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two audible options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate on a coded or non-coded power supply.

### Synchronization Module

The module shall be a Sync•Circuit model MDL3 listed to UL Standard 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires.

The module shall mount to a 4 11/16 x 4 11/16 x 2 1/8-inch backbox. The module shall also control two Style Y (Class B) circuits or one Style Z (Class A) circuit. The module shall synchronize multiple zones. Daisy-chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply

### UL Current Draw

Table 1 lists the UL maximum strobe current draw.

| | Candela | 8-17.5 Volts DC | 16-33 Volts DC | FWR |
|---|---|---|---|---|
| Candela Range | 15 | 88 | 43 | 60 |
| | 30 | 143 | 63 | 83 |
| | 75 | N/A | 107 | 136 |
| | 95 | N/A | 121 | 155 |
| | 110 | N/A | 148 | 179 |
| | 135 | N/A | 172 | 209 |
| | 185 | N/A | 222 | 257 |

**Table 1: UL Maximum Strobe Current Draw (mA RMS)**

Table 2 lists the UL maximum Horn current draw.

| Sound Pattern | dB | 8-17.5 Volts DC | 16-33 Volts DC | FWR |
|---|---|---|---|---|
| Temporal | High | 39 | 44 | 54 |
| Temporal | Low | 28 | 32 | 54 |
| Non-Temporal | High | 43 | 47 | 54 |
| Non-Temporal | Low | 29 | 32 | 54 |
| 3.1 KHz Temporal | High | 39 | 41 | 54 |
| 3.1 KHz Temporal | Low | 29 | 32 | 54 |
| 3.1 KHz Non-Temporal | High | 42 | 43 | 54 |
| 3.1 KHz Non-Temporal | Low | 28 | 29 | 54 |
| Coded | High | 43 | 47 | 54 |
| 3.1 KHz Coded | High | 42 | 43 | 54 |

**Table 2: UL Max. Horn Current Draw (mA RMS)**

**UL Current Draw Data**

Table 3 lists the maximum UL Current Draw (mA RMS) allowed for Wall Horn Strobes.

| DC | 8–17.5 Volts | | 16–33 Volts | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 15cd | 30cd | 15cd | 30cd | 75cd | 95cd | 110cd | 135cd | 185cd |
| EM Temp Hi | 98 | 158 | 54 | 74 | 121 | 142 | 162 | 196 | 245 |
| EM Temp Low | 93 | 154 | 44 | 65 | 111 | 133 | 157 | 164 | 235 |
| EM Cont Hi | 106 | 166 | 73 | 94 | 139 | 160 | 182 | 21 | 262 |
| EM Cont Low | 93 | 156 | 51 | 71 | 119 | 139 | 162 | 190 | 239 |
| 3.1K Temp Hi | 93 | 156 | 53 | 73 | 119 | 140 | 164 | 190 | 242 |
| 3.1K Temp Low | 91 | 154 | 45 | 66 | 112 | 133 | 160 | 185 | 235 |
| 3.1K Cont Hi | 99 | 162 | 69 | 90 | 135 | 157 | 175 | 208 | 261 |
| 3.1K Cont Low | 93 | 156 | 52 | 72 | 119 | 138 | 162 | 192 | 242 |

| FWR Input | 16V FWR | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 15cd | 30cd | 75cd | 95cd | 110cd | 135cd | 185cd | |
| EM Temp Hi | 83 | 107 | 156 | 177 | 198 | 234 | 287 | |
| EM Temp Low | 68 | 91 | 145 | 165 | 185 | 223 | 271 | |
| EM Cont Hi | 111 | 135 | 185 | 207 | 230 | 264 | 316 | |
| EM Cont Low | 79 | 104 | 157 | 175 | 197 | 235 | 283 | |
| 3.1K Temp Hi | 81 | 105 | 155 | 177 | 196 | 234 | 284 | |
| 3.1K Temp Low | 68 | 90 | 145 | 166 | 186 | 222 | 276 | |
| 3.1K Cont Hi | 104 | 131 | 177 | 204 | 230 | 264 | 326 | |
| 3.1K Cont Low | 77 | 102 | 156 | 177 | 199 | 234 | 291 | |

Table 3 UL Max. Current Draw (mA RMS), Wall Horn Strobe, Horn Strobe, Candela Range (15–115 cd)

**Horn Strobe Tones and Sound Output Data**

Table 4 lists the horn strobe tones and sound output date.

| Switch Position | Sound Pattern | dB | 8–17.5 Volts DC | 16–33 Volts DC | FWR |
|---|---|---|---|---|---|
| 1 | Temporal | High | 84 | 89 | 89 |
| 2 | Temporal | Low | 75 | 83 | 83 |
| 3 | Non-Temporal | High | 85 | 90 | 90 |
| 4 | Non-Temporal | Low | 76 | 84 | 84 |
| 5 | 3.1 KHz Temporal | High | 83 | 88 | 88 |
| 6 | 3.1 KHz Temporal | Low | 76 | 82 | 82 |
| 7 | 3.1 KHz Non-Temporal | High | 84 | 89 | 89 |
| 8 | 3.1 KHz Non-Temporal | Low | 77 | 83 | 83 |
| 9* (See Note) | Coded | High | 85 | 90 | 90 |
| 10* (See Note) | 3.1 KHz Coded | High | 84 | 89 | 89 |
| Note: Settings 9 and 10 are not available on 2-Wire horns and strobes. Temporal coding must be provided by the NAC. If the NAC voltage is held constant, the horn output remains constantly on. | | | | | |

Table 4: Horn Strobe Tones and Sound Output Data

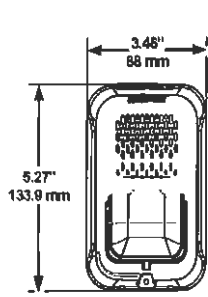# L-Series Dimensions



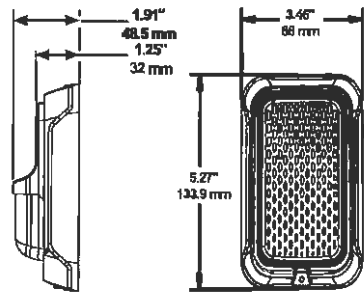*Figure 1 Compact Strobe, Horn Strobe*
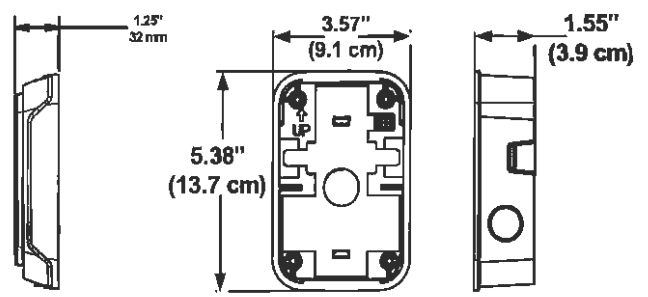


*Figure 2 Compact Horn*



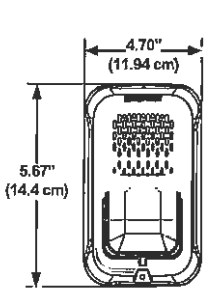*Figure 3 Compact Wall Surface Mount Backbox (SBBGRL, SBBGWL)*
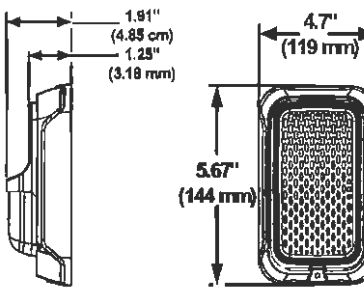


*Figure 4 Strobe, Horn Strobe*
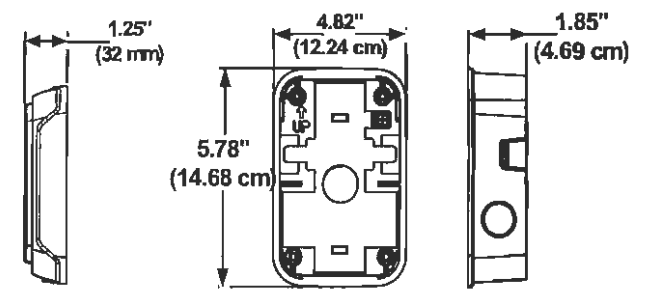


*Figure 5 Horn*



*Figure 6 Wall Surface Mount Backbox (SBBRL/SBBWL)*

## L-Series Ordering Information

**Wall Strobes:**

SRL: Strobe, Red

SWL: Strobe, White

SGRL: Compact Strobe, Red

SGWL: Compact Strobe, White

SRL-P: Strobe, Red, Plain

SWL-P: Strobe, White, Plain

SWL-CLR-ALERT: Strobe, White, ALERT

**Notes:**

All -P models have a plain housing (no "FIRE" marking on cover).

All -SP models have "FUEGO" marking on cover.

All -ALERT models have "ALERT" marking on cover.

## L-Series Ordering Information

HRL*: Horn, Red

HWL*: Horn, White

HGRL*: Compact Horn, Red

HGWL*: Compact Horn, White

Note: Horn-only models are listed for wall or ceiling use.

**Accessories:**

TR-2: Universal Wall Trim Ring Red

TR-2W: Universal Wall Trim Ring White

SBBRL: Wall Surface Mount Back Box, Red

SBBWL: Wall Surface Mount Back Box, White

SBBGRL: Compact Wall Surface Mount Backbox, Red

SBBGWL: Compact Wall Surface Mount Backbox, White

# L-Series, Indoor Strobes and Horn Strobes Technical Specifications

## SYSTEMS

**Temperature Ranges:**

**Standard Operating Temperature:** 32°F to 120°F (0°C to 49°C)

**Humidity Range:** 10 to 93% non-condensing

**Voltages:**

**Strobe Flash Rate:** 1 flash per second

**Nominal Voltage:** Regulated 12 VDC or regulated 24 DC/FWR[1]

**Operating Voltage Range[2]:** 8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)

**Operating Voltage Range (MDL3):** 8.5 to 17.5V (12 V nominal) or 16.5 to 33 V (24V nominal)

**Wire Gage:**

**Input Terminal Wire Gauge:** 12 to 18 AWG

**Dimensions:**

**Wall-Mount Dimensions (including lens):**

5.6"L x 4.7"W x 1.91"D

(143 mm L x 119 mm W x 49 mm D)

**Compact Wall-Mount Dimensions (including lens):**

5.26" L x 3.46" W x 1.91" D

(133 mm L x 88 mm W x 49 mm D)

**Horn Dimensions:**

5.6" L x 4.7" W x 1.25" D

(143 mm L x 119 mm W x 32 mm D)

**Compact Horn Dimensions:**

5.25" L x 3.45" W x 1.25" D

(133 mm L x 88 mm W x 32 mm D)

**Notes:**

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 30 cd.

## TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

## STANDARDS

The L-Series, Ceiling Strobes and Horn Strobes are designed to comply with the following standard:

**UL Standard:** UL 1971 and UL 464

## AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

**UL:** S5512, S4011

**CSFM:** 7135-1653:0503

7125-1653:0504

**ISO 9001 Certification**

## For more information

Learn more about Gamewell-FCI's L-Series, Indoor Strobes and Horn Strobes and other products available by visiting www.Gamewell-FCI.com

**Honeywell**

# BAT Series Batteries Sealed Lead-Acid or Gel Cell

**by Honeywell**

## Description

**BAT Series Batteries** are Gamewell-FCI approved sealed lead-acid batteries that can be used for all your fire alarm system needs. Multiple brands of batteries are now offered under generic part numbers, reducing back order situations and permitting us to deliver these products in a more timely fashion. Gamewell-FCI has approved the multiple brands listed below as a possible product shipped for a given part number. Please note that any incoming orders for "PS Series" batteries will be converted to the equivalent BAT Series part numbers.

| Current Part Number | Battery Description | Alternates Approved: Manufacturers and P/Ns Shipped under BAT P/Ns |
|---|---|---|
| BAT-1250 | 12V, 5AH, sealed. | BP5-12 (B&B Battery), PS-1250 (Power-Sonic), UB1250 (UPG). |
| BAT-1270 | 12V, 7AH, sealed. | BP7-12 (B&B Battery), PS-1270 (Power-Sonic), UB1270 (UPG). |
| BAT-12120 | 12V, 12AH, sealed. | BP12-12 (B&B Battery), PS-12120 (Power-Sonic), UB12120 (UPG). |
| BAT-12180 | 12V, 18AH, sealed | PS-12180 (Power-Sonic), SA UB12180 (UPG). |
| BAT-12260 | 12V, 26AH, sealed | BP26-12 (B&B Battery), PS-12260 (Power-Sonic), UB12260 (UPG). |
| BAT-1250 | 12V, 5AH, sealed | BP5-12 (B&B Battery), PS-1250 (Power-Sonic), SA 1250 (UPG). |
| BAT-12550 | 12V, 55AH, sealed | PS-12550 (Power-Sonic), UB12550 (UPG). |
| BAT-121000 | 12V,100 AH, gel cell. | PS-121000 (Power-Sonic), XSA121000A (UPG.) |

MH19884 (B & B Battery)
MH20727 (UPG)
MH20845 (Power-Sonic)
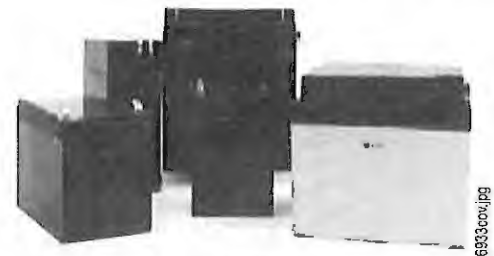


MH20727



MH19884



MH20845

## Features

- Provide secondary power for control panels
- Sealed and maintenance-free
- Overcharge protected
- Easy handling with leakproof construction
- Ruggedly constructed, high-impact case (ABS, polystyrene, or polypropylene, depending on models)
- Long service life
- Compact design

**An ISO 9000-2000 Company**

SIGNALING
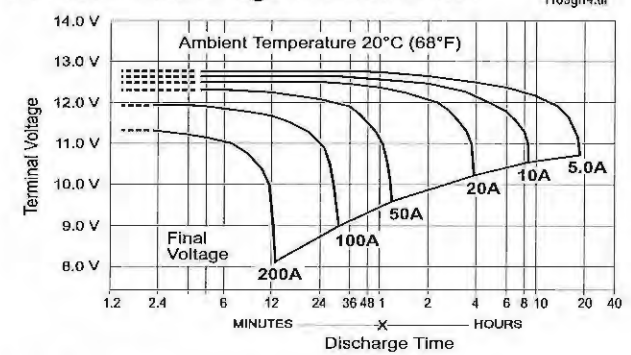(UL) LISTED

# POWER SONIC

| Model | Nominal Voltage V | Nominal Capacity @ 20 hr. rate A.H. | Discharge Current @ 20 hr. rate mA | Dimensions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Width | | Depth | | Height | | Height over Terminal | | Weight | |
| | | | | in. | mm. | in. | mm. | in. | mm. | in. | mm. | lbs. | kg. |
| PS-1250 | 12 | 5.0 | 250 | 3.54 | 90 | 2.76 | 70 | 4.02 | 102 | 4.21 | 107 | 4.1 | 1.9 |
| PS-1270 | 12 | 7.0 | 325 | 5.94 | 151 | 2.56 | 65 | 3.70 | 94 | 3.86 | 98 | 5.7 | 2.6 |
| PS-12120 | 12 | 12 | 600 | 5.94 | 151 | 3.86 | 98 | 3.70 | 94 | 3.86 | 98 | 8.8 | 4.0 |
| PS-12180 | 12 | 18 | 875 | 7.13 | 181 | 2.99 | 76 | 6.57 | 167 | 6.57 | 167 | 12.8 | 5.8 |
| PS-12250 | 12 | 25 | 1300 | 6.89 | 175 | 6.54 | 166 | 4.92 | 125 | 4.92 | 125 | 18.7 | 8.5 |
| PS-12550 | 12 | 55 | 3000 | 10.25 | 260 | 6.60 | 168 | 8.20 | 208 | 9.45 | 240 | 39.7 | 18.0 |
| PS-121000 | 12 | 100 | 5000 | 12.00 | 305 | 6.60 | 168 | 8.20 | 208 | 9.45 | 240 | 65.7 | 29.8 |

## Characteristic Discharge Curves



Discharge Time @ 20°C (68°F)

## PS-121000 Shelf-Life and Storage



Charging is NOT necessary unless 100% of capacity is required.

Charging before use is necessary to help recover full capacity.

Charge may fail to restore full capacity. DO NOT let batteries reach this state.
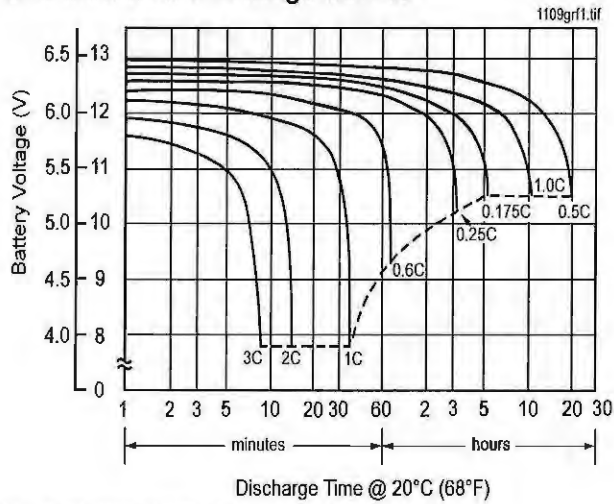
## PS-121000 Discharge Characteristics



## Effect of Temperature on Capacity
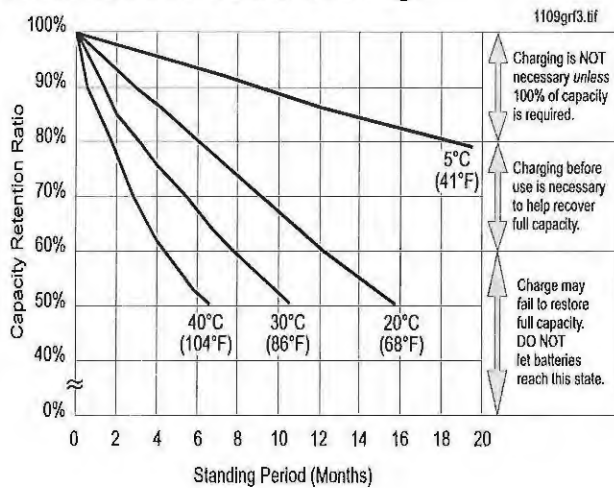


## PS-695

## B&B BATTERY

| Model | V | Nominal Capacity (AH) | | | | Weight | | Terminal | | | | Dimensions | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Standard | | Optional | | L | | W | | H | | TH | |
| | | 20 hr | 10 hr | 5 hr | 1 hr | kg | lbs | Type | Pos. | Type | Pos. | mm | in | mm | in | mm | in | mm | in |
| BP5-12 | 12 | 5.00 | 4.75 | 4.25 | 3.00 | 1.86 | 4.10 | T1 | 3 | T2 | | 90 | 3.54 | 70 | 2.76 | 102 | 4.02 | 106 | 4.17 |
| BP7-12 | 12 | 7.00 | 6.65 | 5.95 | 4.20 | 2.60 | 5.73 | T2 | 5 | T1 | | 151 | 5.94 | 65 | 2.56 | 93 | 3.66 | 98 | 3.86 |
| BP12-12 | 12 | 12.00 | 11.40 | 10.20 | 7.20 | 4.03 | 8.89 | B1 | 5 | T1 | | 151 | 5.94 | 98 | 3.86 | 94 | 3.70 | 98 | 3.86 |
| BP26-12 | 12 | 26.00 | 24.70 | 22.10 | 15.60 | 9.40 | 20.73 | B1 | 7 | T2,I1 | 9 | 175 | 6.89 | 166 | 6.54 | 125 | 4.92 | 125 | 4.92 |

6933bb1.tbl

## Charging Procedure

| Application | Charging method | Charging voltage at 20°C (V/cell) | Temperature compensation coefficient of charging voltage (mV/°C/cell) | Maximum charging current (CA) | Charging time 0.1 CA, 20°C (h) | | Temp (°C) |
|---|---|---|---|---|---|---|---|
| | | | | | 100% discharge | 50% discharge | |
| For standby power source | Constant voltage and constant current charging (with current restriction) | 2.25 ~ 2.30 | − 3 | 0.3 | 24 | 20 | 0 ~ 40°C (32~ 104°F) |
| For cycle service | | 2.40 ~ 2.50 | − 4 | 0.3 | 16 | 10 | |

*Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.*

6933bbch.tbl

### At Left: Constant Power Discharge Characteristics at 25°C/77°F for BP5-12

| Final Voltage | Discharge Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 5 min | 10 min | 15 min | 30 min | 1 hr | 3 hr | 5 hr | 10 hr | 20 hr |
| | Battery Output Power (W) | | | | | | | | |
| 10.80 V | 180.8 | 133.1 | 106.6 | 63.5 | 36.39 | 14.57 | 10.05 | 5.62 | 2.94 |
| 10.50 V | 209.2 | 144.2 | 111.5 | 65.9 | 37.48 | 14.87 | 10.20 | 5.70 | 3.00 |
| 10.20 V | 222.3 | 149.4 | 115.0 | 67.4 | 38.16 | 15.00 | 10.26 | 5.73 | 3.01 |
| 9.90 V | 232.3 | 152.9 | 117.6 | 68.3 | 38.61 | 15.10 | 10.29 | 5.75 | 3.02 |
| 9.60 V | 240.0 | 156.0 | 120.0 | 69.0 | 39.00 | 15.20 | 10.32 | 5.75 | 3.02 |

6933bb05.tbl

### At Left: Constant Power Discharge Characteristics at 25°C/77°F for BP7-12

| Final Voltage | Discharge Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 5 min | 10 min | 15 min | 30 min | 1 hr | 3 hr | 5 hr | 10 hr | 20 hr |
| | Battery Output Power (W) | | | | | | | | |
| 10.80 V | 253.1 | 186.3 | 149.3 | 88.8 | 50.95 | 20.40 | 14.07 | 7.86 | 4.11 |
| 10.50 V | 292.9 | 201.8 | 156.2 | 92.2 | 52.47 | 20.81 | 14.28 | 7.98 | 4.20 |
| 10.20 V | 311.2 | 209.1 | 161.0 | 94.3 | 53.42 | 21.00 | 14.36 | 8.02 | 4.22 |
| 9.90 V | 325.2 | 214.1 | 164.7 | 95.6 | 54.06 | 21.15 | 14.41 | 8.04 | 4.23 |
| 9.60 V | 336.0 | 218.4 | 168.0 | 96.6 | 54.60 | 21.27 | 14.45 | 8.04 | 4.23 |

6933bb07.tbl

### At Left: Constant Power Discharge Characteristics at 25°C/77°F for BP12-12

| Final Voltage | Discharge Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 5 min | 10 min | 15 min | 30 min | 1 hr | 3 hr | 5 hr | 10 hr | 20 hr |
| | Battery Output Power (W) | | | | | | | | |
| 10.80 V | 433.9 | 319.4 | 256.0 | 152.3 | 87.34 | 34.98 | 24.12 | 13.48 | 7.05 |
| 10.50 V | 502.2 | 346.0 | 267.7 | 158.1 | 89.96 | 35.68 | 24.48 | 13.68 | 7.20 |
| 10.20 V | 533.6 | 358.5 | 276.0 | 161.7 | 91.57 | 36.00 | 24.61 | 13.75 | 7.23 |
| 9.90 V | 557.5 | 367.1 | 282.4 | 164.0 | 92.67 | 36.25 | 24.70 | 13.79 | 7.25 |
| 9.60 V | 576.0 | 374.4 | 288.0 | 165.6 | 93.60 | 36.47 | 24.77 | 13.79 | 7.25 |

6933bb12.tbl

### At Left: Constant Power Discharge Characteristics at 25°C/77°F for BP26-12

| Final Voltage | Discharge Time | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 5 min | 10 min | 15 min | 30 min | 1 hr | 3 hr | 5 hr | 10 hr | 20 hr |
| | Battery Output Power (W) | | | | | | | | |
| 10.80 V | 940.0 | 692.0 | 554.6 | 330.0 | 189.23 | 75.79 | 52.25 | 29.20 | 15.26 |
| 10.50 V | 1086.0 | 749.7 | 580.0 | 342.5 | 194.91 | 77.30 | 53.04 | 29.64 | 15.60 |
| 10.20 V | 1156.0 | 776.7 | 598.0 | 350.3 | 198.41 | 78.00 | 53.33 | 29.79 | 15.67 |
| 9.90 V | 1208.0 | 795.3 | 611.8 | 355.2 | 200.79 | 78.54 | 53.52 | 29.88 | 15.71 |
| 9.60 V | 1248.0 | 811.2 | 624.0 | 358.8 | 202.80 | 79.01 | 53.66 | 29.88 | 15.71 |

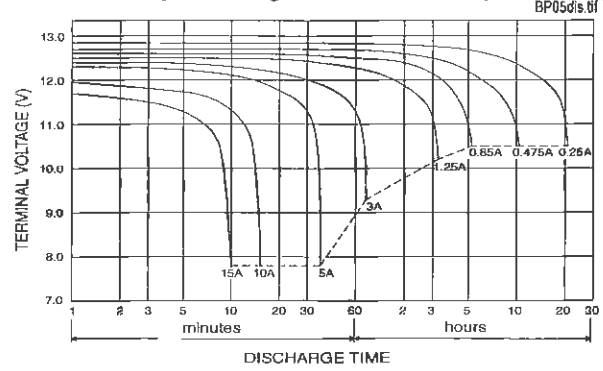6933bb26.tbl

**GAMEWELL-FCI**
12 Clintonville Road, Northford, CT 06472-1610 USA • Tel: (203) 484-7161 • Fax: (203) 484-7118
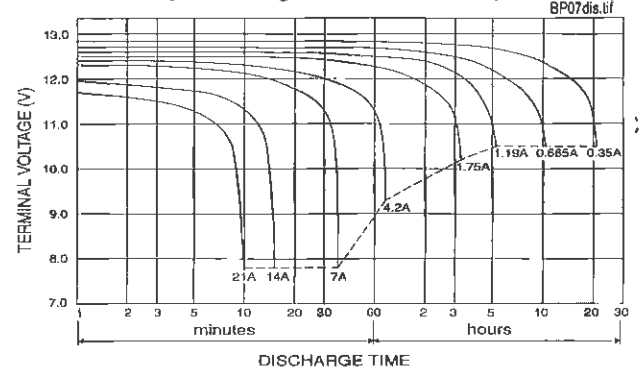www.gamewell-fci.com
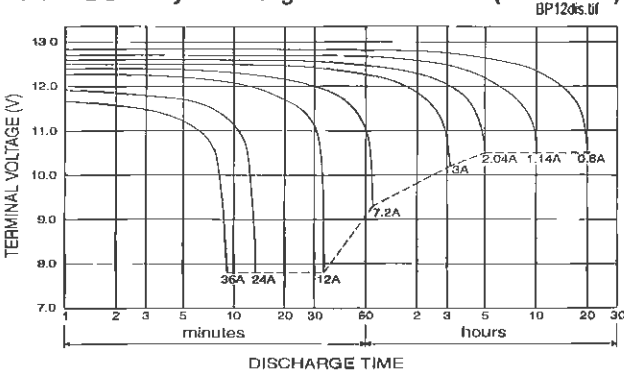CS-2500 Rev. A2  page 3 of 8

# B&B Battery

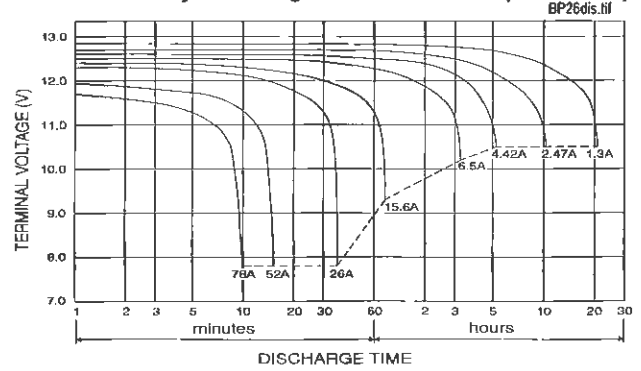## BP5-12 Battery Discharge Characteristics (25°C/77°F)

BP05dis.tif



## BP7-12 Battery Discharge Characteristics (25°C/77°F)

BP07dis.tif



## BP12-12 Battery Discharge Characteristics (25°C/77°F)

BP12dis.tif



## BP26-12 Battery Discharge Characteristics (25°C/77°F)

BP26dis.tif



**BP5-12**



**BP26-12**



**BP12-12**
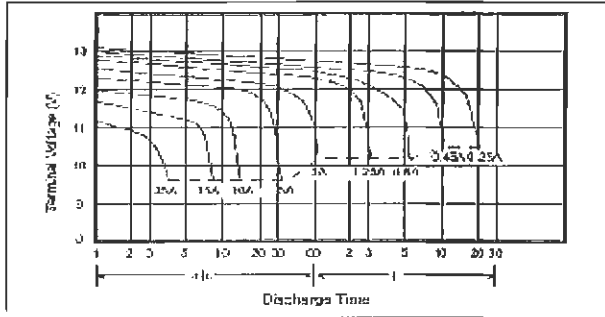
## UPG BATTERY
### UB1250
**UB1250 Discharge Current vs Time**

★ Discharge Current vs Time
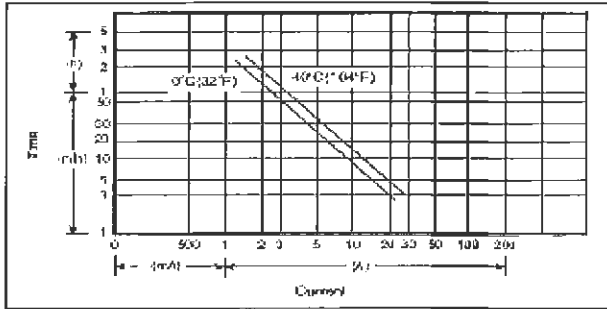


**UB1250 Discharge Characteristics (25°C/77°F)**
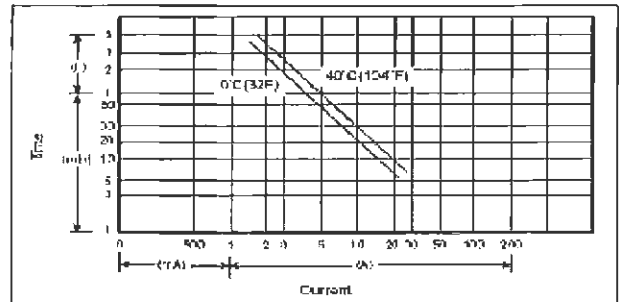
★ Discharge Characteristics 25 °C (77 °F)



### UB1250 SPECIFICATIONS
- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 5.0 AH.
- **Dimensions:** Total height: 107 mm (4.21 in);
  Container height: 101 mm (3.98 in);
  Length: 90 mm (3.54 in); width: 70 mm (2.76 in).
- Weight: approximately 1.83 kg (4.03 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance: (25°C, 77°F): ~ 32 m.
- Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
- Capacity 25°C/77°F:
  20 hr @ 0.25 A: 5.0 AH.
  5 hr @ 0.8 A: 4.0 AH.
  1 hr @ 3.0 A: 3.0 AH.
  1 C @ 5.0 A: 2.5 AH.
- Charging voltage (25°C, 77°F):
  Standby use: 13.65 V ± 0.15 V.
  Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 60 A (5 sec).
- Maximum charging current: 1.5 A.
- Self-discharge residual capacity: (25°C, 77°F):
  After 3 months: ~ 90%.
  After 6 months: ~ 82%.
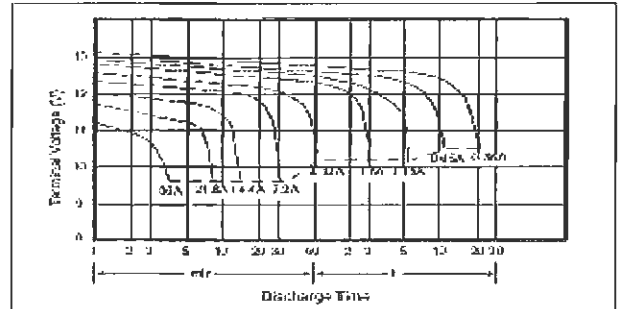  After 12 months: ~ 70%.

## UB1270
### UB1270 Discharge Current vs Time

★Discharge Current vs Time



**UB1270 Discharge Characteristics (25°C/77°F)**

★ Discharge Characteristics @25 °C (77 °F)



### UB1270 SPECIFICATIONS
- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 7.2 AH.
- **Dimensions:** Total height:100 mm (3.94 in);
  Container height: 94 mm (3.70 in);
  Length; 151 mm (5.95 in); width 65 mm (2.56 in).
- Weight: approximately 2.66 kg (5.85 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 22 m.
- Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
- Capacity 25°C/77°F:
  20 hr @ 0.36 A: 7.2 AH.
  5 hr @ 1.15 A: 5.76 AH.
  1 hr @ 4.32 A: 4.32 AH.
  1 C @ 7.2 A: 3.6 AH.
- Charging voltage (25°C, 77°F):
  Standby use: 13.65 V ± 0.15 V.
  Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 90 A (5 sec).
- Maximum charging current: 2.16 A.
- Self-discharge residual capacity (25°C, 77°F):
  After 3 months: ~ 90%.
  After 6 months: ~ 82%.
  After 12 months: ~ 70%.

**UPG Battery**
**UB12120**
**UB12120 Discharge Current vs Time**
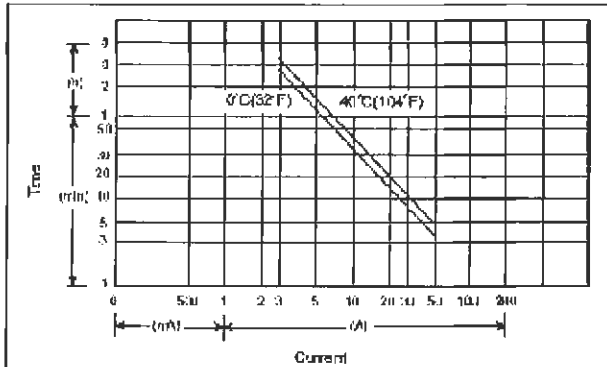


## UB12120 Discharge Characteristics (25°C/77°F)
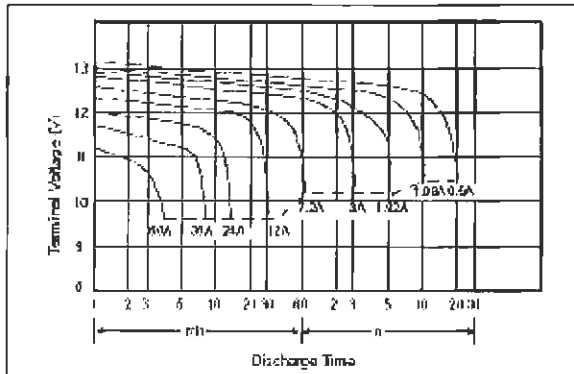


**UB12120 SPECIFICATIONS**
- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 12.0 AH.
- **Dimensions:** Total height: 100 mm (3.94 in);
  Container height: 94 mm (3.70 in);
  Length: 151 mm (5.95 in); width 98 mm (3.86 in).
- Weight: approximately 4.10 kg (9.04 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance: (25°C, 77°F): ~ 14 m.
- Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
- Capacity 25°C/77°F:
  20 hr @ 0.6 A: 12.0 AH.
  5 hr @ 1.92 A: 9.6 AH.
  1 hr @ 7.2 A: 7.2 AH.
  1 C @ 12.0 A: 6.0 AH.
- Charging voltage: (25°C, 77°F):
  Standby use: 13.65 V ± 0.15 V.
  Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 120 A (5 sec).
- Maximum charging current: 3.6 A.
- Self-discharge residual capacity: (25°C, 77°F):
  After 3 months: ~ 90%.
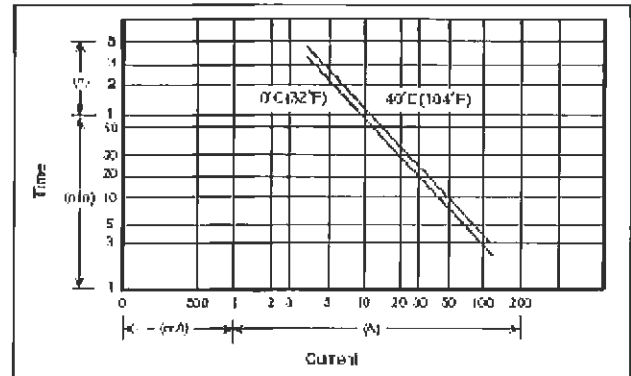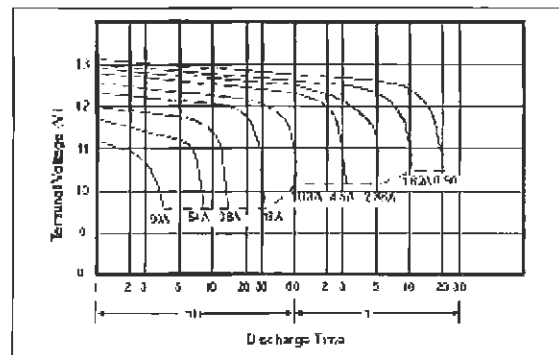  After 6 months: ~ 82%.
  After 12 months: ~ 70%.

**UB12180**
**UB12180 Discharge Current vs Time**



## UB12180 Discharge Characteristics (25°C/77°F)



**UB12180 SPECIFICATIONS**
- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 18.0 AH.
- **Dimensions:** total height: 167 mm (6.58 in);
  Container height: 167 mm (6.58 in);
  Length: 181 mm (7.13 in); width 76 mm (2.29 in).
- Weight: approximately 6.06 kg (13.36 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 13 m.
- Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
- Capacity 25°C/77°F:
  20 hr @ 0.9 A: 18.0 AH.
  5 hr @ 2.88 A: 14.4 AH.
  1 hr @ 10.8 A: 10.8 AH.
  1 C @ 18.0 A: 9.0 AH.
- Charging voltage (25°C, 77°F):
  Standby use: 13.65 V ± 0.15 V.
  Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 300 A (5 sec).
- Maximum charging current: 5.4 A.
- Self-discharge residual capacity (25°C, 77°F):
  After 12 months: ~ 70%.
  After 6 months: ~ 82%.
  After 12 months: ~ 70%.

## UPG BATTERY
## 'JB12550
### UB12550 Discharge Current vs Time



### UB12550 Discharge Characteristics (25°C/77°F)



## UB12550 SPECIFICATIONS
- Nominal voltage: 12 V.
- Nominal capacity (20 hr.): 55.0 AH.
- **Dimensions:** Total height: 234.5 mm (9.23 in);
  Container height: 216.5 mm (8.52 in);
  Length: 229 mm (9.02 in); width 138 mm (5.43 in).
- Weight: approximately 19.0 kg (41.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance: (25°C, 77°F): ~ 8 m.
- Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
- Capacity 25°C/77°F:
  20 hr. @ 2.75 A: 55.0 AH.
  5 hr. @ 8.8 A: 44.0 AH.
  1 hr. @ 33.0 A: 33.0 AH.
  1 C @ 55.0 A: 27.5 AH.
- Charging voltage: (25°C, 77°F):
  Standby use: 13.65 V ± 0.15 V.
  Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec.).
- Maximum charging current: 16.5 A.
- Self-discharge residual capacity: (25°C, 77°F):
  After 3 months: ~ 90%.
  After 6 months: ~ 82%.
  After 12 months: ~ 70%.

## UPG BATTERY
### UB30H/GEL Discharge Current vs Time



### UB30H/GEL Discharge Characteristics (25°C/77°F)
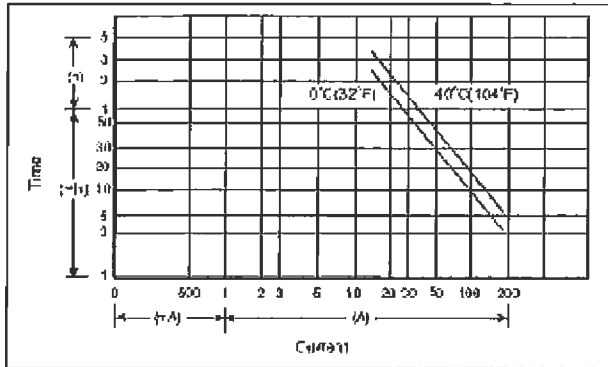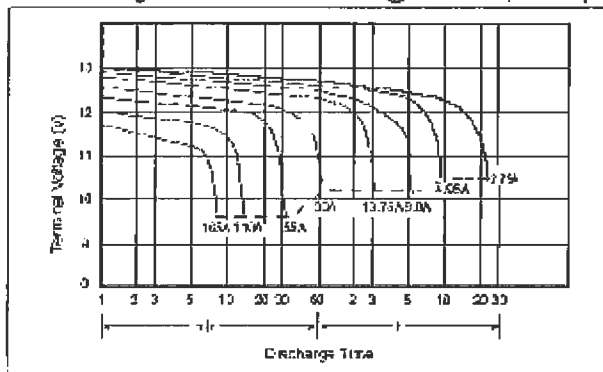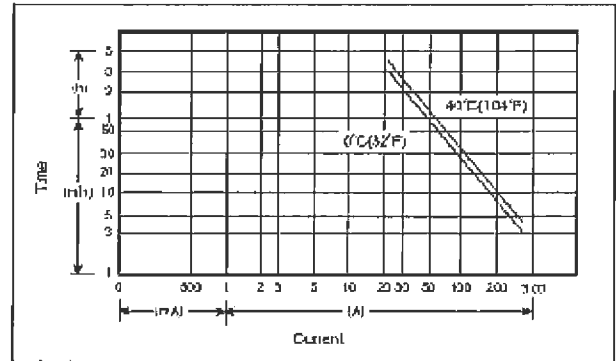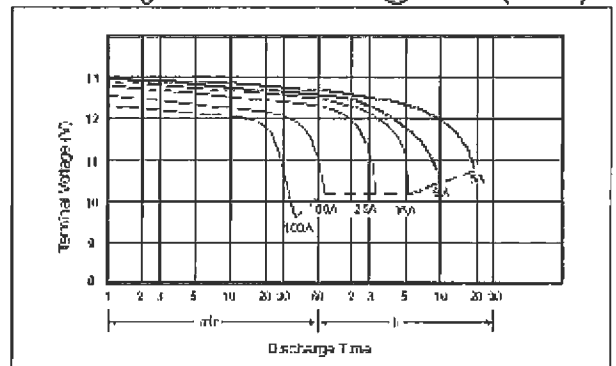


## UB30H/GEL SPECIFICATIONS
- Nominal voltage: 12 V.
- Nominal capacity (20 hr.): 100.0 AH.
- Dimensions: Total height: 221 mm (8.70 in);
  Container height: 214 mm (8.43 in);
  Length: 329 mm (12.95 in); width: 172 mm (6.77 in).
- Weight: approximately 34.00 kg (74.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 6.5 m.
- Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
- Capacity 25°C/77°F:
  20 hr. @ 5.0 A: 100.0 AH.
  5 hr. @ 16.0 A: 80.0 AH.
  1 hr. @ 60.0 A: 60.0 AH.
  1 C @ 100.0 A: 50.0 AH.
- Charging voltage (25°C, 77°F):
- Standby use: 13.65 V ± 0.15 V.
- Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec.).
- Maximum charging current: 30 A.
- Self-discharge residual capacity (25°C, 77°F):
  After 3 months: ~ 90%.
  After 6 months: ~ 82%.
  After 12 months: ~ 70%.

## Charging Procedure: UPG Battery

| Application | Charging method | Charging voltage at 25°C (V/cell) | Temperature compensation coefficient of charging voltage (mV/°C/cell) | Maximum charging current (CA) | Charging time 0.1 CA, 25°C (h) | | Temp (°C) |
|---|---|---|---|---|---|---|---|
| | | | | | 100% discharge | 50% discharge | |
| For standby power source | Constant voltage and constant current charging (with current restriction) | 2.25 – 2.30 | – 3.3 (–1.8 mV/°F/cell) | 0.3 | T ≥ 24 | T ≥ 20 | 0 – 40°C (32 – 104°F) |
| For cycle service | | 2.40 – 2.50 | – 5 (–2.8 mV/°F/cell) | 0.3 | 16 < T < 24 | 10 < T < 24 | |
| *Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.* | | | | | | | |

## Summary Discharge Current vs. Time Curve (25°C/77°F)
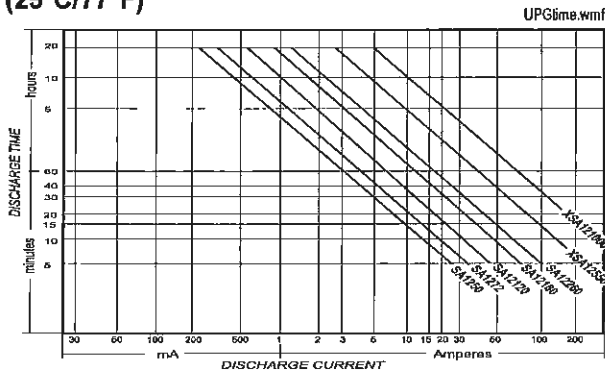


UPGtime.wmf

## Summary Discharge Characteristics



UPGdis.wmf



6933jp55.wmf
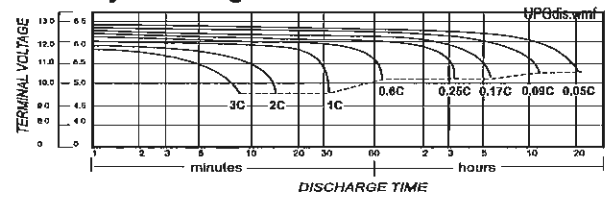
| Qty | Model | Description | Manufacturer |
|---|---|---|---|
| 1 | HPF24S8 | 8A 24VDC F/A NAC POWER SUPPLY | Farenhyt |
| 4 | AMM-2F | Addressable monitor module, Class "B" | Gamewell |
| 21 | AOM-2RF | Addressable output relay control module | Gamewell |
| 6 | ASD-PL3 | Analog photoelectronic sensor, Velociti only, bright white color | Gamewell |
| 17 | ASD-PL3R | Analog photoelectronic sensor, remote test capable, Velociti only, bright white color | Gamewell |
| 2 | ASD-PTL3 | Analog photoelectronic sensor with 135° thermal sensor, Velociti only, bright white color | Gamewell |
| 15 | B300-6 | 6" base, flanged, low profile, use with analog sensor or Velociti sensors, bright white color | Gamewell |
| 2 | BAT-12120-BP | Four (4) BAT-12120 (12v, 12Ah) shipped in each bulk pack | Gamewell |
| 2 | BAT-1270-BP | Five (5) BAT-1270 (12v, 7Ah) shipped in each bulk pack | Gamewell |
| 2 | DACT-E3 | Digital alarm communication transmitter | Gamewell |
| 17 | DNR | InnovairFlex intelligent duct detector, non-relay, does not include head | Gamewell |
| 17 | DST10 | InnovairFlex sampling tube, steel, 10' with holes | Gamewell |
| 1 | E3BB-RA2 | A2 Size, Remote enclosure, red door, w/inner door, LCD slot (LCD-E3, LCD-SLP) | Gamewell |
| 1 | HPF24S8 | 8 amp 24 volt F/A power supply, with charger, 120 VAC, with sync, includes main PCB, transformers, red enclosure, and installation instructions | Gamewell |
| 1 | LCD-E3 | LCD keypad display | Gamewell |
| 16 | MS-7AF | Addressable double action station | Gamewell |
| 4 | P2RL | Horn/strobe, 12/24 volt, multi-candela 15, 30, 75, 95, 110, 135, 185, red | Gamewell |
| 4 | P2RL-BP10 | Horn/strobe, 12/24 volt, multi-candela 15, 30, 75, 95, 110, 135, 185, red - BULK PACK OF 10 UNITS | Gamewell |
| 5 | PC2RL | Horn/strobe, 12/24 volt, multi-candela 15, 30, 75, 95, 115, 150, 177, red | Gamewell |
| 2 | PC2RL-BP10 | Horn/strobe, 12/24 volt, multi-candela 15, 30, 75, 95, 115, 150, 177, red - BULK PACK OF 10 UNITS | Gamewell |
| 17 | RTS151 | Remote test station; with switch, alarm and power LED. | Gamewell |
| 2 | SLC-PM | SLP add-on SLC module, System Sensor. 1 loop-318 devices. Required for SLP panel order | Gamewell |
| 2 | SLP-RED | Smart Loop Panel addressable FACP, Red enclosure with 7A power supply, LCD-SLP display. Requires SLC-PM or SLC95-PM for SLC loops | Gamewell |
| 4 | SRL | Strobe, 12/24 volt, multi-candela 15, 30, 75, 95, 110, 135, 185, red | Gamewell |
|  |  |  |  |

165     Total Devices

# SECURITY & LIFE SAFETY

WE MAKE BUILDINGS WORK FOR YOU

**CLIMATEC**

## A CLIMATEC SOLUTION

City of Calexico Fire Alarm Installation RFP

Prepared for

City of Calexico, Public Works Dept.

6/9/2020

Presented by

Carlos A. Perez

**City of Calexico, Public Works Dept.**
**Falomir Lilliana**
**608 Heber Avenue**
**Calexico, CA 92231**

**Project Addresses:**
608 Herber Ave & 850 Encinas
Calexico, CA 92231

## SCOPE OF WORK: FIRE ALARM TURNKEY INSTALLATION

Thank you for the opportunity to provide a responsive bid for the City of Calexico Request for Proposal for Fire Alarm System Installation for City Hall and Camarena Memorial Library.

Climatec will provide labor and materials to install a code compliant fire alarm system at the two referenced locations. The proposed systems are designed per 2016 California Fire Code and NFPA 72.

Pricing is based on a site survey conducted by Climatec on May 26, 2020, the plans provided by the City of Calexico, the City of Calexico Request for Proposal for Fire Alarm System Installation for City Hall and Camarena Memorial Library, Addendum No. 1 (dated June 30th, 2020) and the referenced fire codes.

See below for additional scope inclusions, conditions and clarifications.

Not included in this scope:

- Fire Watch
- Existing Fire Alarm System in operation for the duration of the project
- High Voltage Electrical Work
- HVAC connections
- See additional exclusions below

## Items we have included:

1. Plans and permits
2. Auto CAD As-builts (with CAD provided by the City of Calexico)
3. Prevailing Wage Rates
4. Patching and Painting

5. Conduit and Back boxes
6. After-Hours labor for installation and testing
7. Project Management
8. Commissioning
9. Lift Rental
10. Demolition of existing fire alarm system
11. Equipment listed on the bill of material
12. Shipping, freight and taxes

## Conditions and Clarifications:

1. Work shall not be performed until contract/purchase order has been fully executed and approved
2. Climatec is not responsible for additional costs due to unforeseen requirements by the Authority Having Jurisdiction (AHJ), or any other conditions such as Emergency Radio Communication System. This includes additional labor, and/or other material without back charge or change order to Climatec.
3. All work and testing to be done during after hours Monday thru Friday, excluding Climatec employee holidays.
4. Project will require engineered plan check and submittals. Engineering of plans and permit costs are included. No work shall be performed until approvals have been received. The liability for any work prior to approvals shall be the sole responsibility of the owner/company requesting said work.
5. Invoicing shall be monthly, based on progress of labor and material. Climatec reserves the right to stop work when any invoice exceeds 30 days past due.
6. Lead time on engineered plans is normally 2 to 3 weeks after a fully executed contract and a usable CAD format floor plan is received.
7. Lead time on equipment is normally 2 to 3 weeks once drawings are approved by the Authority Having Jurisdiction (AHJ).
8. Climatec is submitting this proposal with the expectations that the existing facility infrastructure, including but not limited to, wiring, walls, ceilings, conduit, conduit supports, back boxes, electrical panels, electrical outlets, studs and support beams are in sound and code compliant condition and are not included in this proposal and remain the responsibility of the owner.
9. Delineation of Connection Points to Other's Equipment: Climatec will not install or attach components installed by other trades. Climatec will provide relay or monitor points at equipment to be controlled or monitored by the fire alarm system, but the connection point must be identified by the equipment's contractor. Climatec will work with other trades to

expedite all equipment interfaces.

## Additional Notes:

To begin this project once an approved contract or purchase order is in place, Climatec will need:

1. An electronic CAD file in Auto CAD shall be sent to CPerez@climatec.com

## Cancellation:

Cancellations must be in writing. Climatec will provide a final invoice for the following items based on incurred expenses to the date of cancellation.

1. Administrative Expenses
2. Design, Engineering and CAD Expenses
3. Any restocking fees on product already received
4. Any special order product that cannot be returned to the vendor
5. Site mobilization

Carlos A. Perez | Account Executive
2150 S Towne Centre Place # 200
Anaheim, CA 92806
**Cell: 949-629-0274**
CPerez@climatec.com

# EXCLUSIONS

- Voice Evacuation or Mass Notification System
- Sprinkler System
- Carbon Monoxide Detection or Detectors
- Provide 120 VAC power
- High voltage electrical work
- Concrete pad and trenching
- Knox Boxes by Others
- Monitoring charges, telephone lines and communications for monitoring do not form part of this proposal
- Phones lines for 24/7 Monitoring
- Graphic Annunciator(s)
- Removal of hazardous substances or working in a hazardous environment such as, but not limited to, asbestos, carbon monoxide or methane
- Any costs associated with fire watch
- Ceiling Tile replacement, Concrete Coring or access hatches
- Roof Penetrations and patching
- Trenching, excavating or backfill
- Fire caulking, sleeves or fire proofing
- Testing or installation of fiber
- Any existing fire alarm system troubles
- Any existing sprinkler repairs

# MATERIAL LIST

| Qty | Part No. | Description |
|-----|----------|-------------|
| **City Hall** | | |
| 1 | SLP-RED | Smart Loop Panel addressable FACP, Red enclosure with 7A power supply, LCD-SLP display. Requires SLC-PM or SLC95-PM for SLC loops |
| 1 | DACT-E3 | Digital alarm communication transmitter |
| 1 | SLC-PM | SLP add-on SLC module, System Sensor. 1 loop-318 devices. Required for SLP panel order |
| 5 | ASD-PL3 | Analog photoelectronic sensor, Velociti only, bright white color |
| 7 | B300-6 | 6" base, flanged, low profile, use with analog sensor or Velociti sensors, bright white color |
| 10 | DNR | InnovairFlex intelligent duct detector, non-relay, does not include head |
| 10 | RTS151 | Remote test station; with switch, alarm and power LED. |
| 4 | AMM-2F | Addressable monitor module, Class "B" |
| 14 | AOM-2RF | Addressable output relay control module |
| 8 | MS-7AF | Addressable double action station |
| 4 | P2RL | Horn/strobe, 12/24 volt, multi-candela 15, 30, 75, 95, 110, 135, 185, red |
| 2 | P2RL-BP10 | Horn/strobe, 12/24 volt, multi-candela 15, 30, 75, 95, 110, 135, 185, red - BULK PACK OF 10 UNITS |
| 5 | PC2RL | Horn/strobe, 12/24 volt, multi-candela 15, 30, 75, 95, 115, 150, 177, red |
| 2 | PC2RL-BP10 | Horn/strobe, 12/24 volt, multi-candela 15, 30, 75, 95, 115, 150, 177, red - BULK PACK OF 10 UNITS |
| 1 | BAT-1270-BP | Five (5) BAT-1270 (12v, 7Ah) shipped in each bulk pack |
| 1 | BAT-12120-BP | Four (4) BAT-12120 (12v, 12Ah) shipped in each bulk pack |
| 1 | HPF24S8 | 8A 24VDC F/A NAC POWER SUPPLY |
| 10 | DST10 | InnovairFlex sampling tube, steel, 10' with holes |
| 2 | ASD-PTL3 | Analog photoelectronic sensor with 135° thermal sensor, Velociti only, bright white color |
| 10 | ASD-PL3R | Analog photoelectronic sensor, remote test capable, Velociti only, bright white color |
| **Camarena Library** | | |
| 1 | SLP-RED | Smart Loop Panel addressable FACP, Red enclosure with 7A power supply, LCD-SLP display. Requires SLC-PM or SLC95-PM for SLC loops |
| 1 | DACT-E3 | Digital alarm communication transmitter |
| 1 | SLC-PM | SLP add-on SLC module, System Sensor. 1 loop-318 devices. Required for SLP panel order |
| 1 | E3BB-RA2 | A2 Size, Remote enclosure, red door, w/inner door, LCD slot (LCD-E3, LCD-SLP) |
| 1 | LCD-E3 | LCD keypad display |
| 1 | ASD-PL3 | Analog photoelectronic sensor, Velociti only, bright white color |
| 8 | B300-6 | 6" base, flanged, low profile, use with analog sensor or Velociti sensors, bright white color |

| | | 7 | DNR | InnovairFlex intelligent duct detector, non-relay, does not include head |
|---|---|---|---|---|
| | | 7 | RTS151 | Remote test station; with switch, alarm and power LED. |
| | | 7 | AOM-2RF | Addressable output relay control module |
| | | 8 | MS-7AF | Addressable double action station |
| | | 2 | P2RL-BP10 | Horn/strobe, 12/24 volt, multi-candela 15, 30, 75, 95, 110, 135, 185, red - BULK PACK OF 10 UNITS |
| | | 4 | SRL | Strobe, 12/24 volt, multi-candela 15, 30, 75, 95, 110, 135, 185, red |
| | | 1 | BAT-1270-BP | Five (5) BAT-1270 (12v, 7Ah) shipped in each bulk pack |
| | | 1 | BAT-12120-BP | Four (4) BAT-12120 (12v, 12Ah) shipped in each bulk pack |
| | | 7 | ASD-PL3R | Analog photoelectronic sensor, remote test capable, Velociti only, bright white color |
| | | 7 | DST10 | InnovairFlex sampling tube, steel, 10' with holes |
| | | 1 | HPF24S8 | 8 amp 24 volt F/A power supply, with charger, 120 VAC, with sync, includes main PCB, transformers, red enclosure, and installation instructions |
| | | | | |

# PROPOSAL COST SUMMARY

**<u>Fire Alarm Installation Cost:</u>**

**Total Project Installation Investment**          **$448,582.00**

**By signing below, I accept this proposal and agree to the terms and conditions contained herein.**

_____

Customer Name (Printed):

_____

Customer Signature:

_____

Date:

# TERMS & CONDITIONS

By accepting this Proposal, Purchaser agrees to be bound by the following terms and conditions:

1. **SCOPE OF WORK.** This proposal is valid for 60 days from date of proposal. Beyond that time Climatec reserves the right to revise any or all portions of it. This proposal is based upon the use of straight time labor only unless stated otherwise in this proposal. Plastering, patching and painting are excluded unless stated otherwise in this proposal. "In-line" duct and piping devices, including but not limited to valves, dampers, humidifiers, wells, taps, flow meters, orifices, etc., if required hereunder to be furnished by Climatec Building Technologies Group (Climatec), shall be distributed to and installed by others under Climatec's supervision but at no additional cost to Climatec. Purchaser agrees to provide Climatec with required field utilities (electricity, toilets, drinking water, project hoist, elevator service, etc.) Without charge. Climatec agrees to keep the jobsite clean of debris arising out of its own operations. Purchaser shall not back charge Climate for any cost or expenses without Climatec's written consent.

   Unless specifically noted in the statement of the scope of the work or services undertaken by Climatec under this agreement, Climatec's obligations under this agreement expressly exclude any work or service of any nature associated or connected with the identification, abatement, clean up, control, removal or disposal of environment Hazards or dangerous substances, to include but not to be limited to asbestos, PCBs, or mold discovered in or on the premises. Any language or provision of the agreement elsewhere contained which may authorize or empower the Purchaser to change, modify or alter the scope of work or services to be performed by Climatec shall not operate to compel Climatec to perform any work relating to Hazards without Climatec's express written consent.

2. **INVOICING & PAYMENTS.** Climatec may invoice Purchaser for all materials delivered to the job site or to on off-site storage facility and for the work performed on-site and off-site. Purchaser agrees to pay Climatec amounts invoiced upon receipt of invoice. Waivers of lien will be furnished upon request, as the work progresses; to the extent payments are received. If Climatec's invoice is not paid within 30 days of its issuance, it is delinquent and Climatec shall add 1% per month interest onto delinquent amounts.

3. **MATERIALS.** If the materials or equipment included in this proposal become temporarily or permanently unavailable, the time for performance of the work shall be extended to the extent thereof, and in case of permanent unavailability, Climatec shall (a) be excused from furnishing said materials or equipment, and (b) be reimbursed for the difference between the cost of the materials or equipment permanently unavailable and the cost of a reasonable substitute therefore.

4. **WARRANTY.** Climatec warrants that the equipment manufactured by it shall be free from defects in material and workmanship arising from normal usage for a period of one (1) year from delivery of said equipment, or if installed by Climatec, for a period of one (1) year from the installation date. Climatec warrants that for equipment furnished and/or installed but NOT manufactured by Climatec, Climatec will extend the same warranty and terms and conditions, which Climatec receives from the manufacturer of said equipment. For equipment installed by Climatec, if Purchaser provides written notice to Climatec of any such defects within thirty (30) days after the appearance or discovery of such defect, Climatec shall, at its option, repair or replace the defective equipment and return said equipment to Purchaser. All transportation charges incurred in connection with the warranty for equipment not installed by Climatec shall be borne by Purchaser. These warranties do not extend to any equipment which has been repaired by others, abused, altered or misused, or which has not been properly and reasonably maintained. THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO THOSE OF MERCHANABILITY AND FITNESS FOR A SPECIFIC PURPOSE.

5. **LIABILITY.** Climatec shall not be liable for any special, indirect, or consequential damages arising in any manner from the equipment or material furnished or the work performed pursuant to this agreement.

6. **TAXES.** The price of this proposal does not include duties, sale, use, excise or other similar taxes unless required by federal, state or local laws unless stated otherwise in this proposal. Purchaser shall pay, in addition to the stated price, all taxes not legally required to be paid by Climatec or, alternatively, shall provide Climatec with acceptable tax exemption certificates. Climatec shall provide Purchaser with any tax payment certificate upon request and after completion and acceptance of the work.

7. **DELAYS.** Climatec shall not be liable for any delay in the performance of the work resulting from or attributed to acts of circumstance beyond Climatec's control, including but not limited to acts of God, file riots, labor disputes, conditions of the premises, acts or omissions of the Purchaser, Owner or other Contractors or delays caused by suppliers or subcontractors or Climatec, etc.

8. **COMPLIANCE WITH LAWS.** Climatec shall comply with all applicable federal, state, and local laws and regulations. All licenses and permits required for the prosecution of the work shall be obtained and paid for by the purchaser unless stated otherwise in this proposal.

9. **DISPUTES.** All disputes involving more than $15,000 shall be resolved by arbitration in accordance with the rules of the American Arbitration Association. The prevailing party shall recover all legal costs and attorney's fees incurred as a result. Nothing here shall limit any rights under construction lien laws.

10. **INSURANCE.** Insurance coverage in excess of Climatec's standard limits will be furnished when requested and required and at Climatec's discretion the costs of this additional insurance may be passed on to the Purchaser. No credit will be given or premium paid by Climatec for insurance afforded by others.

11. **INDEMNITY.** The Parties hereto agree to indemnify each other from any and all liabilities, claims, expenses, losses or damages, including attorney's fees which may arise in connection with the execution of the work herein specified and which are caused, in whole or in part by the negligent act or omission of the Indemnifying Party.

12. **OCCUPATIONAL SAFETY AND HEALTH.** The Parties hereto agree to notify each other immediately upon becoming aware of an inspection under, or any alleged violation of, the Occupational Safety and Health Act (OSHA) relating in any way to the project or project site.

13. **ENTIRE AGREEMENT.** This proposal, upon acceptance, shall constitute the entire agreement between the parties and supersedes any prior representations or understandings.

14. **CHANGES.** No change or modification of any of the terms and conditions stated herein shall be binding upon Climatec unless accepted by Climatec in writing.

15. **SEVERABILITY.** If one or more of the provision of this agreement are held to be unenforceable under laws, such provision(s) shall be excluded from these terms and conditions and the remaining terms and conditions shall be interpreted as if such provision were so excluded and shall be enforced in accordance to their terms and conditions.

# Calexico City Fire Alarm upgrade timeline

## Calexico Camarena Memorial Library

- Total duration of project 6 weeks
- Week 1
  Demo of existing system.
- Week 2
  Installation of new conduit system
- Week 3
  Continued installation of conduit.
  Pulling wire and trimming devices.
- Week 4
  Finish installation of conduit.
  Continue pulling wire and trimming devices.
  Start programming of fire alarm panel.
- Week 5
  Finish installation of wire devices.
  Finish programming the fire alarm panel.
  Pretest of system.
- Week 6
  Schedule inspection/closeout project.

## Calexico City Hall

- Total duration of project 6 weeks
- Week 1
  Demo of existing system
- Week 2
  Installation of new conduit system
- Week 3
  Continued installation of conduit.
  Pulling wire and trimming devices.
- Week 4
  Finish installation of conduit.
  Continue pulling wire and trimming devices.
  Start programming of fire alarm panel.
- Week 5
  Finish installation of wire devices.
  Finish programming the fire alarm panel.
  Pretest of system.
- Week 6
  Schedule inspection/closeout project.

# CITY OF CALEXICO

**Request for Proposals For**
**Fire Alarm System Installation at City Hall and Camarena Memorial Library**
**Addendum No. 1**
**June 3, 2020**

This Addendum forms a part of the Contract Documents for the above identified projects and modifies the original request for proposals (RFP) as noted below. Portions of the contract not specifically mentioned in this Addendum, remain in force. All trades affected shall be fully advised of these changes, deletions, and additions.

CONTRACTOR AND BUSINESS LICENSE REQUIREMENT

Please replace the following sentence with:

~~Contractor must be duly-licensed as an C-16 at the time of the award of the bid and at the time of the execution of the contract.~~

*Contractor must be duly licensed as an C-10 at the time of the award of the bid and at the time of the execution of the contract.*

RESPONSES TO QUESTIONS

1.  Will successful bidder be responsible for painting and patching if necessary? For instance, the old FACPs are mounted in the wall of both buildings

    Yes, successful bidder will be responsible for painting and patching if necessary at both buildings.

2.  Some of the old device locations will require blank plates to cover in-wall or in-ceiling locations that will no longer be utilized. Is the use of white or similar color cover plates acceptable to be used?

    Yes, white or similar color cover plates will be acceptable.

3.  Will successful bidder be responsible for demolition of existing fire alarm system?

    Yes, successful bidder will be responsible for demolition of existing fire alarm system.

*Viva Calexico!*

4. Can existing wiring, and device locations be utilized if proved adequate?

   Yes, existing wiring, and device locations can be utilized if they are adequate and up to code.

5. Bid calls for a C-16 contractor to bid this work. As C-16 contractors do not install fire alarm systems, will this be changed to a C-10 contractor?

   Contractor must be duly licensed as an C-10 at the time of the award of the bid and at the time of the execution of the contract.

Library:
6. Will there be an asbestos abatement report provided for this site? We suspect there may be asbestos in the ceiling tiles in the back work areas of the library.

   An asbestos abatement report will be provided for this site.

7. If asbestos is found will the City mitigate it and remove prior to project starting?

   Yes, if asbestos is found the City will mitigate it and remove prior to project starting.

8. Will the City be responsible for patching and painting for the project?

   Successful bidder will be responsible for patching and painting if necessary.

9. Will the City be responsible for tile replacement for the project?

   The City will be responsible for tile replacement for said project.

10. Will work be done during normal business hours or after hours?

    The work will be done after hours.

11. Will the site be occupied during construction?

    The site will be occupied during normal business hours.

12. The building isn't sprinklered so this means it will require full area smoke detector coverage and full ADA upgrade for occupant notification. Does the City want only wire mold to be used or is conduit wanted for the installation of these devices?

    The City wants conduit to be used.

City Hall

13. Will the City be responsible for patching and painting for the project?

    Successful bidder will be responsible for patching and painting if necessary.

14. Will the City be responsible for tile replacement for the project?

The City will be responsible for tile replacement for said project.

15. Will work be done during normal business hours or after hours?

The work will be done after hours.

16. Will the site be occupied during construction?

The site will be occupied during normal business hours.

17. There are exhaust fans in the garage to remove carbon monoxide. Where is the existing carbon monoxide head end located?

Unable to located existing carbon monoxide head ends at this time.

Please acknowledge receipt of this Addendum by signing and include a copy of the Addendum in your proposal package.

Sincerely,

Lilliana Palomir
Public Works Manager – Administrative

## ACCEPTANCE OF ADDENDUM

Receipt of the attached ADDENDUM No. 1, is hereby acknowledged by:

CLIMATEC, LLC
_____
Company Name

This the ___8th___ day of ___June___, 2020

By: ___CARLOS A. PEREZ___

Signature: _____ Title: ___Account Executive___

# CITY OF CALEXICO



# Request for Proposals
# For
# Fire Alarm System Installation at City Hall and Camarena Memorial Library

**608 Heber Avenue**
**Calexico, CA 92231**
**760/768-2160**
**www.calexico.ca.gov**

**May 13, 2020**

**City of Calexico**
**Request for Proposals**
**For Fire Alarm System Installation**

The City of Calexico is soliciting proposals from qualified and experienced contractors to install an automated fire alarm system at City Hall located at 608 Heber Avenue and Camarena Memorial Library located at 850 Encinas Avenue. The system shall be in compliance with the National Fire Protection Association (NFPA) 72, National Fire Alarm Code, current edition, as well as all other National, State, & local ordinances/codes. Only one (1) contract will be awarded.

Contractor must submit five (5) copies of their proposal with original signature. The proposal must be formatted in accordance with the instructions of this RFP. Promotional material may be attached, but are not necessary and will not be considered as meeting any of the requirements of this RFP. Proposals must be enclosed in a sealed envelope or package, clearly marked "RFP for Fire Alarm System Installation" and delivered on or before 2:00p.m. on Tuesday June 9, 2020 to:

Office of the City Clerk
City Hall
City of Calexico
608 Heber Avenue
Calexico, CA 92231

Late, emailed or facsimile proposals will not be accepted. It is the proposer's responsibility to assure that its proposal is delivered and received at the location specified herein, on or before the date and hour set. Proposals received after the date and time specified will not be considered.

Copy of the Request for Proposal can be obtained by visiting the City of Calexico website at www.calexico.ca.gov.

Consultant will be required to obtain a City of Calexico Business License once proposal is awarded.

If you have any questions, please do not hesitate to contact the Public Works Department at 760/768-2160.

Lilliana Falomir
Public Works Manager – Administrative

# TABLE OF CONTENTS

**City of Calexico**
**Request for Proposals**
**For Fire Alarm System Installation**

## I. INTRODUCTION

The City of Calexico is soliciting proposals from qualified and experienced contractors to install an automated fire alarm system at City Hall located at 608 Heber Avenue and Camarena Memorial Library located at 850 Encinas Avenue. The system shall be in compliance with the National Fire Protection Association (NFPA) 72, National Fire Alarm Code, current edition, as well as all other National, State, & local ordinances/codes. Only one (1) contract will be awarded.

## II. BACKGROUND

City hall was constructed in 1993, it is approximately 25,845 square feet and it is a two (2) story building (level #1 – parking garage). The current fire alarm system in the building is out of service. The building is equipped with an NFPA 13 sprinkler system.

Camarena Memorial Library was constructed in 1986, it is approximately 12,913 square feet. The current fire alarm system in the building is out of service. The building is equipped with an NFPA 13 sprinkler system.

The fire alarm system must provide fire, carbon monoxide, and sprinkler flow protection.

## III. SITE WALKTHROUGH

The City will conduct voluntary site walkthroughs by request. Proposers wishing to attend a site walkthrough must RSVP to the Public Works Manager – Administrative on or before May 26, 2020 at 2:00p.m. to be eligible to participate in a walkthrough. Interested Proposers shall schedule a site walkthrough by request to:

Lilliana Falomir
Public Works Manager – Administrative
549 Pierce Avenue
Calexico, CA 92231
760/768-2160
falomirl@calexico.ca.gov

## IV. SCOPE OF SERVICE

The successful Proposer will be required to submit all installation plans and specifications to Fire Department Officials for approval before any work may commence. Proposers should be aware there may be some additional electrical work required to integrate the new system with City Hall and Library specific equipment. It shall also be the responsibility of the successful Proposer to obtain all required permits. The proposal shall include a timeline of installation for project completion.

The project must be completed no later than 60 days of proposal acceptance.

### V. SUBMISSION REQUIREMENTS

The following information must be included in all proposals.

A.  A statement detailing the Proposer's background and experience;

B.  Provide a list of five (5) references which include the contact name, title, phone number and email address;

C.  Detailed submittals on the brand of equipment to be used;

D.  The number of devices to be used, specifically smoke detectors, rate of rise detectors, and carbon monoxide detectors;

E.  Cost for complete project;

F.  Project timeline;

G.  Copy of Contractor License; and

H.  Any other information the Proposer feels will aide in the evaluation process.

## VI. SELECTION CRITERIA

Each proposal will be evaluated based upon the following criteria:

A.  Proposer's background and experience;

B.  Prior history and/or experience with the Proposer;

C.  References; and

D.  Proposed cost.

## VII. TENTATIVE SCHEDULE

| Request for Proposal Issued | May 13, 2020 |
| Proposals Due | June 9, 2020 at 2:00p.m. |
| Selection and Negotiations | Week of June 16, 2020 |
| City Council Approval of Contract | July 15, 2020 |
| Project Completion | September 30, 2020 |

## VIII. CITY FACILITIES

City facilities listings:

1.  City Hall, 608 Heber Avenue, Calexico, CA
2.  Camarena Memorial Library, 850 Encinas Avenue, Calexico, CA

## IX. INQUIRIES

Pre-submittal procedural or technical inquires may be directed to Lilliana Falomir, Public Works Manager – Administrative via email at falomirl@calexico.ca.gov.

## X.    CONTRACTOR AND BUSINESS LICENSE REQUIREMENT

Contractor must be duly licensed as an C-16 at the time of the award of the bid and at the time of the execution of the contract.

After selection and execution of a contractor services Agreement and prior to rendering services to the City, the successful contractor shall obtain a business license from the City.  It is unlawful for any person to furnish supplies or services or transact any kind of business in the City without obtaining a business license from the City.  Business license applications are available at:

http://www.calexico.ca.gov/index.asp?SEC=6A842C14-71D2-4815-8D75-89A210535E65&Type=B_BASIC

## XI.    SUBMITTAL DEADLINE

Contractor must submit five (5) copies of their proposal with original signature. The proposal must be formatted in accordance with the instructions of this RFP. Promotional material may be attached, but are not necessary and will not be considered as meeting any of the requirements of this RFP. Proposals must be enclosed in a sealed envelope or package, clearly marked "RFP for Fire Alarm System Installation" and delivered on or before 2:00p.m. on Tuesday, June 9, 2020 to:

<div align="center">

Office of the City Clerk
City Hall
City of Calexico
608 Heber Avenue
Calexico, CA 92231

</div>

Late, emailed or facsimile proposals will not be accepted. It is the proposer's responsibility to assure that its proposal is delivered and received at the location specified herein, on or before the date and hour set. Proposals received after the date and time specified will not be considered.

# EXHIBIT A

AGREEMENT FOR PROFESSIONAL SERVICES

This Agreement is made and entered into as of the _____ day of _____, 2020, by and between the City of Calexico ("City") and _____ ("Consultant").

RECITALS

A.       Consultant is specially trained, experienced and competent to perform the special services which will be required by this Agreement; and

B.       Consultant possesses the skill, experience, ability, background, certification and knowledge to provide the services described in this Agreement on the terms and conditions described herein.

AGREEMENT

1.       Scope of Services.  The Consultant shall furnish the following services in a professional manner.  Consultant shall perform the services described on Exhibit A which is attached hereto and incorporated herein by reference.  Consultant shall provide said services at the time, place, and in the manner specified in Exhibit A, subject to the direction of the City through its staff that it may provide from time to time.

2.       Time of Performance.  The services of Consultant are to commence upon execution of this Agreement and shall continue until all authorized work is approved by the City.  All such work shall be completed no later than June 30, 2021.  Time is of the essence for every provision of this agreement that states a time for performance and for every deadline imposed by the City.

3.       Compensation.  Compensation to be paid to Consultant shall be as set forth in Exhibit B, which is attached hereto and incorporated herein by reference.  Payment by City under this Agreement shall not be deemed a waiver of defects, even if such defects were known to the City at the time of payment.

4.       Method of Payment.  Consultant shall submit monthly billings to City describing the work performed during the preceding month.  Consultant's bills shall include a brief description of the services performed, the date the services were performed, the number of hours spent and by whom, and a description of any reimbursable expenditures.  City shall pay Consultant no later than 30 days after approval of the monthly invoice by City staff.

5.       Ownership of Documents.  All plans, studies, documents and other writings prepared by and for Consultant, its officers, employees and agents and subcontractors in the course of implementing this Agreement, except working notes and internal documents, shall become the property of the City upon payment to Consultant for such work, and the City shall have the sole right to use such materials in its discretion without further

compensation to Consultant or to any other party. Consultant shall, at Consultant's expense, provide such reports, plans, studies, documents and other writings to City upon written request.

6       Independent Contractor. It is understood that Consultant, in the performance of the work and services agreed to be performed, shall act as and be an independent contractor and shall not act as an agent or employee of the City. Consultant shall obtain no rights to retirement benefits or other benefits which accrue to City's employees, and Consultant hereby expressly waives any claim it may have to any such rights.

7.      Interest of Consultant. Consultant (including principals, associates and professional employees) covenants and represents that it does not now have any investment or interest in real property and shall not acquire any interest, direct or indirect, in the area covered by and during this Agreement or any other source of income, interest in real property or investment which would be affected in any manner or degree by the performance of Consultant's services hereunder. Consultant further covenants and represents that in the performance of its duties hereunder no person having any such interest shall perform any services under this Agreement.

Consultant is not a designated employee within the meaning of the Political Reform Act because Consultant:

a.      will conduct research and arrive at conclusions with respect to his/her rendition of information, advice, recommendation or counsel independent of the control and direction of the City or of any City official, other than normal agreement monitoring; and

b.      possesses no authority with respect to any City decision beyond rendition of information, advice, recommendation or counsel. (FPPC Reg. 18700(a)(2).)

8.      Professional Ability of Consultant. City has relied upon the professional training and ability of Consultant to perform the services hereunder as a material inducement to enter into this Agreement. Consultant shall therefore provide properly skilled professional and technical personnel to perform all services under this Agreement. All work performed by Consultant under this Agreement shall be in accordance with applicable legal requirements and shall meet the standard of quality ordinarily to be expected of competent professionals in Consultant's field of expertise.

9.      Indemnity. Consultant agrees to indemnify, including the cost to defend, the City, and its officers, agents and employees from any and all claims, demands, costs or liability that arise out of, or pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant and its agents in the performance of services under this contract. This indemnity does not apply to liability for damages for death or bodily injury to persons, injury to property, or other loss, damage or expense arising from the sole negligence, willful misconduct or defects in design by the City or its agents, servants, or independent contractors who are directly responsible to the City, or the active negligence of the City.

To the fullest extent permitted by law, the Consultant shall (1) immediately defend and (2) indemnify the City, and its councilmembers, officers, agents, and employees from and against all liabilities regardless of nature or type that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant, or its employees, agents, or subcontractors.  Liabilities subject to the duties to defend and indemnify include, without limitation, all claims, losses, damages, penalties, fines, and judgments; associated investigation and administrative expenses; defense costs, including but not limited to reasonable attorneys' fees; court costs; and costs of alternative dispute resolution. The Consultant's obligation to indemnify applies unless it is finally adjudicated that the liability was caused by the sole active negligence or sole willful misconduct of an indemnified party. If it is finally adjudicated that liability is caused by the comparative active negligence or willful misconduct of an indemnified party, then Consultant's indemnification obligation shall be reduced in proportion to the established comparative liability.

(b)     The duty to defend is a separate and distinct obligation from Consultant's duty to indemnify.  Consultant shall be obligated to defend, in all legal, equitable, administrative, or special proceedings, with counsel approved by the City, the City and its councilmembers, officers, agents, and employees, immediately upon tender to Consultant of the claim in any form or at any stage of an action or proceeding, whether or not liability is established.  An allegation or determination that persons other than Consultant are responsible for the claim does not relieve Consultant from its separate and distinct obligation to defend under this section.  The obligation to defend extends through final judgment, including exhaustion of any appeals.  The defense obligation includes an obligation to provide independent defense counsel if Consultant asserts that liability is caused in whole or in part by the negligence or willful misconduct of the indemnified party.  If it is finally adjudicated that liability was caused by the comparative active negligence or willful misconduct of an indemnified party, Consultant may submit a claim to the City for reimbursement of reasonable attorneys' fees and defense costs in proportion to the established comparative liability of the indemnified party.

(c)     The review, acceptance or approval of the City's work or work product by any indemnified party shall not affect, relieve or reduce the City's indemnification or defense obligations. This Section survives completion of the services or the termination of this contract.  The provisions of this Section are not limited by and do not affect the provisions of this contract relating to insurance.

10.     Insurance Requirements.

   a.     Consultant, at Consultant's own cost and expense, shall procure and maintain, for the duration of the contract, the following insurance policies.

   i.     Workers' Compensation Coverage.  Consultant shall maintain Workers' Compensation Insurance and Employer's Liability Insurance for his/her employees in accordance with the laws of the State of California.  In addition,

Consultant shall require each subcontractor to similarly maintain Workers' Compensation Insurance and Employer's Liability Insurance in accordance with the laws of the State of California for all of the subcontractor's employees. Any notice of cancellation or non-renewal of all Workers' Compensation policies must be received by the City at least thirty (30) days prior to such change. The insurer shall agree to waive all rights of subrogation against City, its officers, agents, employees and volunteers for losses arising from work performed by Consultant for City. This provision shall not apply if Consultant has no employees performing work under this Agreement. If the Consultant has no employees for the purposes of this Agreement, Consultant shall sign the "Certificate of Exemption from Workers' Compensation Insurance" which is attached hereto as Exhibit C.

i.      General Liability Coverage. Consultant shall maintain commercial general liability insurance in an amount not less than one million dollars ($1,000,000) per occurrence for bodily injury, personal injury and property damage. If a commercial general liability insurance form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Agreement or the general aggregate limit shall be at least twice the required occurrence limit.

iii.      Automobile Liability Coverage. Consultant shall maintain automobile liability insurance covering bodily injury and property damage for all activities of the Consultant arising out of or in connection with the work to be performed under this Agreement, including coverage for owned, hired and non-owned vehicles, in an amount of not less than one million dollars ($1,000,000) combined single limit for each occurrence.

iv.      Errors and Omissions Liability. Consultant shall maintain errors and omissions liability insurance for all work performed under this Agreement in an amount of not less than one million dollars ($1,000,000).

b.      Policy Endorsements. Each general liability and automobile liability insurance policy shall be with insurers possessing a Best's rating of no less than A:VII and shall be endorsed with the following specific language:

i.      The City of Calexico, its elected or appointed officers, officials, employees, agents and volunteers are to be covered as additional insureds with respect to liability arising out of work performed by or on behalf of the Consultant, including materials, parts or equipment furnished in connection with such work or operations.

ii.      This policy shall be considered primary insurance as respects the City, its elected or appointed officers, officials, employees, agents and volunteers. Any insurance maintained by the City, including any self-insured retention

the City may have, shall be considered excess insurance only and shall not contribute with it.

        iii.     This insurance shall act for each insured and additional insured as though a separate policy had been written for each, except with respect to the limits of liability of the insuring company.

        iv.     Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City, its elected or appointed officers, officials, employees, agents or volunteers.

        v.     The insurance provided by this policy shall not be suspended, voided, canceled, or reduced in coverage or in limits except after thirty (30) days written notice has been received by the City.

    c.     Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions must be declared to and approved by the City. At the City's option, Consultant shall demonstrate financial capability for payment of such deductibles or self-insured retentions.

    d.     Certificates of Insurance and Endorsements. Consultant shall provide certificates of insurance with original endorsements to City as evidence of the insurance coverage required herein. Certificates of such insurance shall be filed with the City on or before commencement of performance of this Agreement. Current certification of insurance shall be kept on file with the City at all times during the term of this Agreement.

11.    Compliance with Laws. Consultant shall use the standard of care in its profession to comply with all applicable federal, state and local laws, codes, ordinances and regulations.

12.    Licenses. Consultant represents and warrants to City that it has all licenses, permits, qualifications, insurance and approvals of whatsoever nature which are legally required of Consultant to practice its profession. Consultant represents and warrants to City that Consultant shall, at its sole cost and expense, keep in effect or obtain at all times during the term of this Agreement, any licenses, permits, insurance and approvals which are legally required of Consultant to practice its profession. Consultant shall obtain a City of Calexico Business License.

13.    Controlling Law Venue. This Agreement and all matters relating to it shall be governed by the laws of the State of California and any action brought relating to this Agreement shall be held exclusively in a state court in the County of Imperial, California.

14.    Written Notification. Any notice, demand, request, consent, approval or communication that either party desires or is required to give to the other party shall be in writing and either served personally or sent prepaid, first class mail. Any such notice, demand, etc.

shall be addressed to the other party at the address set forth herein below. Either party may change its address by notifying the other party of the change of address. Notice shall be deemed communicated within 48 hours from the time of mailing if mailed as provided in this section.

If to City:               City of Calexico, City Manager
608 Heber Ave.
Calexico, CA 92231

If to Consultant:        _____
                              _____
                              _____

15.      Consultant's Books and Records.

        a.        Consultant shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services, or expenditures and disbursements charged to City for a minimum period of three (3) years, or for any longer period required by law, from the date of final payment to Consultant to this Agreement.

        b.        Consultant shall maintain all documents and records which demonstrate performance under this Agreement for a minimum period of three (3) years, or for any longer period required by law, from the date of termination or completion of this Agreement.

        c.        Any records or documents required to be maintained pursuant to this Agreement shall be made available for inspection or audit, at any time during regular business hours, upon written request by the City Manager, City Attorney, City Auditor or a designated representative of these officers. Copies of such documents shall be provided to the City for inspection at City Hall when it is practical to do so. Otherwise, unless an alternative is mutually agreed upon, the records shall be available at Consultant's address indicated for receipt of notices in this Agreement.

        d.        Where City has reason to believe that such records or documents may be lost or discarded due to dissolution, disbandment or termination of Consultant's business, City may, by written request by any of the above named officers, require that custody of the records be given to the City and that the records and documents be maintained in City Hall. Access to such records and documents shall be granted to any party authorized by Consultant, Consultant's representatives, or Consultant's successor-in-interest.

16.      Entire Agreement. This Agreement constitutes the complete and exclusive statement of Agreement between the City and Consultant. All prior written and oral communications,

including correspondence, drafts, memoranda, and representations, are superseded in total by this Agreement.

17.     Amendments.  This Agreement may be modified or amended only by a written document executed by both Consultant and City and approved as to form by the City Attorney.

18.     Waiver.  No failure on the part of either party to exercise any right or remedy hereunder shall operate as a waiver of any other right or remedy that party may have hereunder.

19.     Execution.  This Agreement may be executed in several counterparts, each of which shall constitute one and the same instrument and shall become binding upon the parties when at least one copy hereof shall have been signed by both parties hereto.  In approving this Agreement, it shall not be necessary to produce or account for more than one such counterpart.

20.     Assignment and Subcontracting.  The parties recognize that a substantial inducement to City for entering into this Agreement is the professional reputation, experience and competence of Consultant.  Assignments of any or all rights, duties or obligations of the Consultant under this Agreement will be permitted only with the express consent of the City.  Consultant shall not subcontract any portion of the work to be performed under this Agreement without the written authorization of the City.  If City consents to such subcontract, Consultant shall be fully responsible to City for all acts or omissions of the subcontractor.  Nothing in this Agreement shall create any contractual relationship between City and subcontractor nor shall it create any obligation on the part of the City to pay or to see to the payment of any monies due to any such subcontractor other than as otherwise is required by law.

21.     Termination.  This Agreement may be terminated by the City immediately for cause or by either party without cause upon fifteen days' written notice of termination.  Upon termination, Consultant shall be entitled to compensation for services performed up to the effective date of termination.

***SIGNATURES ON FOLLOWING PAGE***

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the date first written above.


CITY OF CALEXICO:                          CONSULTANT:


_____          _____
David Dale
City Manager


APPROVED AS TO FORM:                       ATTEST:


_____          _____
Carlos Campos                              Gabriela Garcia
City Attorney                              City Clerk

EXHIBIT A

SCOPE OF SERVICES

(proposal dated _____)

EXHIBIT B

SCHEDULE OF CHARGES

EXHIBIT C

CERTIFICATE OF EXEMPTION FROM WORKERS' COMPENSATION INSURANCE

I hereby certify that in the performance of the work for which this Agreement is entered into, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws of the State of California.

Executed on this _____ day of _____, 2020, at_____, California.

_____
Consultant

**CITY OF CALEXICO**

608 Heber Ave.
Calexico, CA 92231-2840
Tel: 760.768.2170
Fax: 760.357.0404
www.calexico.ca.gov

## Request for Proposals For
## Fire Alarm System Installation at City Hall and Camarena Memorial Library
## Addendum No. 1
## June 3, 2020

This Addendum forms a part of the Contract Documents for the above identified projects and modifies the original request for proposals (RFP) as noted below. Portions of the contract not specifically mentioned in this Addendum, remain in force. All trades affected shall be fully advised of these changes, deletions, and additions.

### CONTRACTOR AND BUSINESS LICENSE REQUIREMENT

Please replace the following sentence with:

~~Contractor must be duly-licensed as an C-16 at the time of the award of the bid and at the time of the execution of the contract.~~

*Contractor must be duly licensed as an C-10 at the time of the award of the bid and at the time of the execution of the contract.*

### RESPONSES TO QUESTIONS

1.  Will successful bidder be responsible for painting and patching if necessary? For instance, the old FACPs are mounted in the wall of both buildings

    Yes, successful bidder will be responsible for painting and patching if necessary at both buildings.

2.  Some of the old device locations will require blank plates to cover in-wall or in-ceiling locations that will no longer be utilized. Is the use of white or similar color cover plates acceptable to be used?

    Yes, white or similar color cover plates will be acceptable.

3.  Will successful bidder be responsible for demolition of existing fire alarm system?

    Yes, successful bidder will be responsible for demolition of existing fire alarm system.

4. Can existing wiring, and device locations be utilized if proved adequate?

   Yes, existing wiring, and device locations can be utilized if they are adequate and up to code.

5. Bid calls for a C-16 contractor to bid this work. As C-16 contractors do not install fire alarm systems, will this be changed to a C-10 contractor?

   Contractor must be duly licensed as an C-10 at the time of the award of the bid and at the time of the execution of the contract.

Library:
6. Will there be an asbestos abatement report provided for this site? We suspect there may be asbestos in the ceiling tiles in the back work areas of the library.

   An asbestos abatement report will be provided for this site.

7. If asbestos is found will the City mitigate it and remove prior to project starting?

   Yes, if asbestos is found the City will mitigate it and remove prior to project starting.

8. Will the City be responsible for patching and painting for the project?

   Successful bidder will be responsible for patching and painting if necessary.

9. Will the City be responsible for tile replacement for the project?

   The City will be responsible for tile replacement for said project.

10. Will work be done during normal business hours or after hours?

    The work will be done after hours.

11. Will the site be occupied during construction?

    The site will be occupied during normal business hours.

12. The building isn't sprinklered so this means it will require full area smoke detector coverage and full ADA upgrade for occupant notification. Does the City want only wire mold to be used or is conduit wanted for the installation of these devices?

    The City wants conduit to be used.

City Hall

13. Will the City be responsible for patching and painting for the project?

    Successful bidder will be responsible for patching and painting if necessary.

14. Will the City be responsible for tile replacement for the project?

   The City will be responsible for tile replacement for said project.

15. Will work be done during normal business hours or after hours?

   The work will be done after hours.

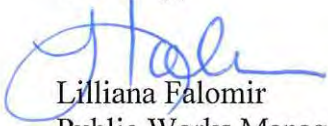16. Will the site be occupied during construction?

   The site will be occupied during normal business hours.

17. There are exhaust fans in the garage to remove carbon monoxide.  Where is the existing carbon monoxide head end located?

   Unable to located existing carbon monoxide head ends at this time.

Please acknowledge receipt of this Addendum by signing and include a copy of the Addendum in your proposal package.

Sincerely,

Lilliana Falomir
Public Works Manager – Administrative

## ACCEPTANCE OF ADDENDUM

Receipt of the attached ADDENDUM No. 1, is hereby acknowledged by:

_____
Company Name

This the _____ day of _____, 2020

By: _____

Signature: _____ Title: _____