

TECHNICAL MATERIAL SUBMITTAL

4100ES Fire alarm system





COMPANY PROFILE





Harmonic
FOR INTEGRATED TRADING



CORPORATE **Harmonic**

www.harmoniceg.com

Mission & Vission

Mission

Our Mission is to meet our valuable clients' business goals by being easy to do business with, friendly and flexible in the way we work, pricing fairly, and always treating our customers with commitment and respect.

We - Harmonic - Guarantee our client to receive a truly reliable product with the fairest prices within the market

Vission

Excellent In What We Do,

Build a safe and secure environment for our community. To provide the highest standard and best value service to the community. Be the best fire protection company, working hard to ensure our communities are at the center of what we do. We are committed to keeping people safe, improving quality of life and making our area a better place to live, work and visit.

Division Specialization



We're proud to mention that Harmonic team includes highly qualified technical office and representatives Experienced in fire fighting systems, who provide accurate quotations, submittals and acceptance testing as required. These fire protection professionals stand ready to address and meet your Fire Fighting and Fire Alarm needs, and are backed by knowledge and experience.

Thank you :)

We are a company specialized
in Fire fighting & Fire Alarm

Our Scope

Fire Detection System

Harmonic supply and install Simplex Fire Alarm products that will enhance the safety of your facility. Our safety solutions include fire detection detectors and notification systems, battery operated fire, smoke, Heat and gas detectors, Fire rated cables, Automatic fire alarms and much more.



Simplex



Gas Suppression System

Harmonic supply and install Tyco/LPG Gas Suppression Systems as apart of Fire Fighting Solutions. Our systems have been certified by UL/FM. We provide FM-200 & FK 5-1-12 as a Clean Agent Fire Suppression Systems and CO2 System. They are known for their efficiency at fire fighting.

Valves And Sprinklers

Harmonic provides All kind of valves Brand Reliable that must be used at automatic water systems. We supply and install the largest of landing valves, Hydrants and angle hose valves. All of our products are suitable for dry and wet systems and will play an important role in your fire defense.



Our Scope

Fire Extinguishers

Harmonic provides All kind of Bavaria fire extinguishers to meet every type of emergency. Our fire extinguishers are fully certified and have been rigorously tested. We have the following types of Fire Extinguishers CO₂, Dry Powder, Water, Foam, Clean Agent and Wet Chemical



Foam Suppression System

Harmonic supply and install Viking Foam-Water Suppression Systems to meet the requirements of our customers in the fire fighting systems. Our systems have been certified by UL/FM. We provide mobile foam concentrates, proportioning devices, discharge devices, and mobile foam equipment.

Fire Pumps

Harmonic supplies UL/FM certified Brand Fire King fire pumps that comply with the highest international standards. Fire pumps are a crucial part of a fire sprinkler system and will form an important part of your building's fire protection system.



Project Case Study



Aya Mall – New cairo



Amazon Warehouses



Epic Mall



Mind House Mall



The Office Mall



Madinaty D Mall

Project Case Study



MSA University – 6 October



Al – Azhar Library



Port Said University



Cairo University



Suez University



Helwan university

Project Case Study



Girga Permits Unit



Banha Hospital



Egyptian Medicine



Shebin Medical Center



Hasaniya Medical Center



Serum And Vaccinum

Project Case Study



HP Food Factory



CFC Site Elsewedy



Facsera Factory



Acdimia Factory



Kapci For Painting



Stones Egypt

Project Case Study



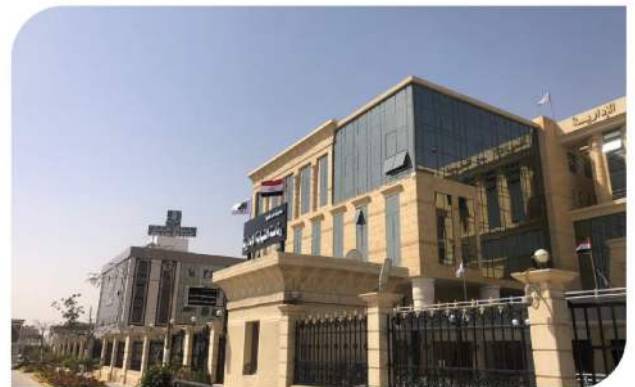
Cairo Bank



Agriculture Bank



QNB Bank



Administrative Prosecution



Jirga Passport Center



Military entity

Project Case Study



Petromaint Alexandria



Ibn Sina stores



Ismailia Engineers Syndicate



Alasher prison



Aksa Maadi Building



New Capital

OUR PARTNERS



CRANE

SHIELD®





Harmonic For Integrated Trading is an innovation company dedicated and specialized in providing company solutions to all fire safety related issues & all the Fire Protection Products .

We are agents of Simplex in Fire alarm and reliable in valves and sprinklers and Fire King for fire pumps

CONTACT US

Address:

63 El-redaa Tower, Abd-
elmohsen el wesemey
Alf-Maskan, Gesr Al-Suies Cairo City

Phone:

010-1510-6012
010-9232-4486

Mail:

info@harmoniceg.com

Distributor letter



A Tyco International Company

*Jason Crouch
Simplex Business Manager
Middle East, Africa & Russia
50 Technology Drive
Westminster, MA
01441 USA*

Monday, 06 January 2014

RESCO (Red Sea Industrial Supply & Contracting Co)
P.O. Box 2761
Jeddah
21461 Saudi
Arabia

To Whom It May Concern:

Subject: Simplex Products in Saudi Arabia

This is to confirm that RESCO (Red Sea Industrial Supply & Contracting Co) is an approved distributor for our range of Simplex Fire Detection, Master Clock, Extinguishing, Nurse Call and Access Control Systems in Saudi Arabia.

RESCO (Red Sea Industrial Supply & Contracting Co) has been established in the region and a valued business partner for over 35 years and can provide complete integration and support of our products and systems including high level integration to third party systems.

RESCO (Red Sea Industrial Supply & Contracting Co) is authorized to design, supply, install, test, commission and service/maintain our range of products in the above territory which is supported with a team of certified trained engineers and technicians.

Please do not hesitate to contact me should you require any further information or clarification. Yours sincerely,

A handwritten signature in black ink, appearing to be 'J. Crouch', written over a horizontal line.

Jason Crouch
Simplex Business Manager – MEAR

Resco

Hassan M. Mazhar & Co.

Red Sea Industrial Supply & Cont. Co.

رسكو

شركة حسن مجذوب و شركاه

البحر الأحمر للتموين الصناعي والتعهدات

Date: Feb 10, 2023

M/S Harmonic for Integrated Trading.
100063 – Abdulmohsen Al Wasaimy – Ein Shams
Cairo - Egypt

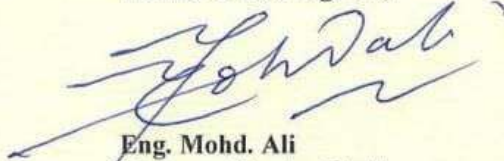
TO WHOM IT MAY CONCERN

Subj. Simplex Fire Alarm System Reseller

We, Resco, the distributors and agent of Simplex-USA in Saudi Arabia, have been working with M/s Harmonic for Integrated Trading since many years. They are our authorized Resellers, Installers as well as Integrators. They have supplied, installed and successfully commissioned several Simplex Fire Alarm projects in Egypt. They are very professional in their job and we have trained their team for installation, programming and testing of Simplex's systems.

Please do not hesitate to contact us for any information or clarification.

Thanks & best regards,



Eng. Mohd. Ali
Manager, Simplex Division
RESCO, Red Sea Industrial Supply & Cont. Co.
Tel. No. 966-2-665-2966/3215/3015 ext. 500
Fax No. 966-2-665-3165
Mobile: 0502667177
email: main@resco-saudi.com



وزارة التموين والتجارة الداخلية

جهاز تنمية التجارة الداخلية

الإدارة المركزية للسجل التجارى

مكتب سجل تجارى جنوب القاهرة المميز

مستخرج من السجل التجارى رقم: ٩١١٨٥ (أفراد محل رئيسى-الفروع القائمة . من اجمالي)
الرقم القومى للمنشأة: ٧١٩٤٨٤٨٨ الرقم الموحد للسجل التجارى (٩١١٨٥ ٠٠٠٠٠ ١٠٠٢٠)
أى كشط أو شطب أو تعديل أو تحشير أو اختتام بخلاف شعار الجمهورية يُلغى هذه الوثيقة

صفحة رقم ١ من ٢

٠٠٥٤ ٠٦-٠٣-٢٠٢٤ ١٠:٣٩:٢٣



(أ) عنوان الفروع والوكالات التابعة تحتل الرئيسى أو المركز العام (ب) عنوان الفروع أو الوكالة (ج) رقم حدة قيد الفروع	(أ) عنوان المحل الرئيسى (ب) عنوان المركز العام للشركة أو الجمعية التعاونية (ج) رقم قيد المحل الرئيسى أو المركز العام (أى حدة قيد الفروع)	١- التاريخ الذى بدأ فيه التاجر أعماله (أ) التجارية بجمهورية مصر العربية ٢- تاريخ الترخيص بمنزلة التجارة (ب) تاريخ إنشاء الشركة وتاريخ انتهائها وتاريخ الترخيص بمنزلة التجارة أو موافقة هيئة الاستثمار (ج) تاريخ افتتاح الفروع أو الوكالة	(أ) نوع التجارة أو (ب) الفروع من ناليس شركة أو الجمعية التعاونية	(أ) اسم التاجر وألقبه وتاريخ ومحل ميلاده وجنسيته (ب) أسماء وألقاب الشركاء المسئولين بالتضامن فى شركات التضامن أو التوصية البسيطة وتاريخ ومحل الميلاد لكل منهم وجنسيته (ج) أسماء وألقاب الشركاء أو غيرهم المتوطين بهم إدارة شركة ومن لهم حق التوقيع باسمها وصلة كل منهم وتاريخ ومحل ميلاده وجنسيته ومدى سلطتهم فى الإدارة والتوقيع (د) أسماء وألقاب أعضاء مجلس الإدارة فى شركات المساهمة أو الجمعية التعاونية وروايلها المتميزين وصلة كل منهم وتاريخ ومحل ميلاده وجنسيته ومدى سلطتهم فى الإدارة والتوقيع (هـ) اسم وألقاب مدير الفروع الرئيسى أو الوكالة العامة فى جمهورية مصر العربية وتاريخ ومحل ميلاده وجنسيته إذا كان المركز العام للشركة فى الخارج	١- الاسم التجارى (أ) ٢- حصة التجارية ٣- الاسم الذى يظهر به التاجر تجارته ٤- نوع الشركة ٥- عنوان الشركة أو اسمها أو اسم الجمعية التعاونية ٦- حصة التجارية (ج) حصة التجارية لتفريع	(أ) رقم الإيداع (ب) تاريخ الإيداع (ج) رقم قيد فى السجل التجارى (د) رقم إيداع طلب التجديد (هـ) تاريخ إيداع طلب التجديد (ج) تاريخ التجديد
(أ) *** (نهاية البيانات) ***	(أ) القاهرة عين شمس ٦٣ أ ش عبدالمحسن الويسى *** (نهاية البيانات) ***	(أ) ١- تاريخ الافتتاح ٢٠٢٣/٠١/٢٣ ٢- تاريخ الترخيص ٢٠٢٣/٠٢/١٥ *** (نهاية البيانات) ***	(أ) توريدات عموميه ومقاولات (فيما عدا توريد العماله وتوريد مستلزمات الكمبيوتر ومستلزمات الطباعة والدعاية والإعلان) ١١٣٢١ [١] ٢٠٢٣/١٠/١٢ تجارة الأجهزة الكهربائية وتوريد وتركيب وصياله أجهزة التكييف والتهريدي وأنظمة اذار الحريق وانظمة الأطفاء (فيما عدا توريد العماله والأمن والحراسة والكاميرات اللاسلكية والأنترنيت وذلك بعد الحصول على التراخيص اللازمة) (موافقه أمنية رقم ١٣٨ لسنة ٢٠٢٣) ١١١	(أ) احمد محمد الشربيني الشربيني مواليد ١٩٩٥/٠٢/٠٥ مصر-الدقهلية رقم قومى ٢٩٥٠٢٠٥١٢٠٣٨٣١ تاجر-كامل الاهلية ١١١ *** (نهاية البيانات) ***	١- احمد محمد الشربيني الشربيني ١١١ ٢- هارموتك للتوريدات العمومية والمقاولات ١١١ ٣- احمد محمد الشربيني الشربيني ١١١ ١١٣٢١ [١] ٢٠٢٣/١٠/١٢ ٢- تعديل السمة التجارية لتصبح هارموتك للتجارة العمكاملة ١١١ قانون ٣٤ لسنة ١٩٧٦ (أ) أفراد خاص	أ - ٢٠٧٤ ب - ٢٠٢٣/٠٢/١٦ ج - ٩١١٨٥ سأرى حتى ٢٠٢٨/٠٢/١٥ *** (نهاية البيانات) ***

إسم طالب المستخرج احمد محمد الشربيني الشربيني
وقد سددت الرسوم (خلاف مقابل التميز) وقدرها : ١٠٥ جنيه (عدد ١ نسخة) بموجب قسيمة . مجموعة ٠ فى ٢٠٢٤/٠٣/٠٦
إصدار مكتب جنوب القاهرة المميز تحريرا فى ٢٠٢٤/٠٣/٠٦ مسئول الطباعة هدى علي محمد محي الدين علي
** الآن... يمكنك تحديث بيانات سجلك التجارى من خلال خدمة الواتس أب ٠١٠٦٣٣٣٣٥٠٤ **

وزارة التموين والتجارة الداخلية

جهاز تنمية التجارة الداخلية

الإدارة المركزية للمح سجل التجاري
مكتب سجل تجارى جنوب القاهرة المميز

مستخرج من السجل التجارى رقم: ٩١١٨٥ (أفراد محل رئيسي-الفروع القائمة من اجمالي ٠)
الرقم القومى للمنشأة: ٧١١٩٤٨٤٨٨ الرقم الموحد للسجل التجارى (٩١١٨٥ ٠٠٠٠٠ ١٠٠٢٠)
أى كشط أو شطب أو تعديل أو تحشير أو أختام بخلاف شعار الجمهورية يلغى هذه الوثيقة

صفحة رقم ٢ من ٢

١٠:٣٩:٢٣ ٢٠٢٤-٠٣-٠٦ ٠٠٥٤



(١) فروع المنشأة	(٢) مقدار رأس المال المستثمر في المحل الرئيسي	(٣) المحل الذى كانت لتأجير سابقا	رقم التسجيل	(٤) الأقسام و الفروع و الفئات القائمة له	(٥) فروع المنشأة
(أ) محلات البيع بالجملة (ب) محلات البيع بالتجزئة (ج) محلات البيع بالجملة والتجزئة (د) محلات البيع بالجملة والتجزئة والتصدير (هـ) محلات البيع بالجملة والتجزئة والتصدير والتصدير (و) محلات البيع بالجملة والتجزئة والتصدير والتصدير والتصدير	(أ) محلات البيع بالجملة (ب) محلات البيع بالتجزئة (ج) محلات البيع بالجملة والتجزئة (د) محلات البيع بالجملة والتجزئة والتصدير (هـ) محلات البيع بالجملة والتجزئة والتصدير والتصدير (و) محلات البيع بالجملة والتجزئة والتصدير والتصدير والتصدير	(أ) محلات البيع بالجملة (ب) محلات البيع بالتجزئة (ج) محلات البيع بالجملة والتجزئة (د) محلات البيع بالجملة والتجزئة والتصدير (هـ) محلات البيع بالجملة والتجزئة والتصدير والتصدير (و) محلات البيع بالجملة والتجزئة والتصدير والتصدير والتصدير	(أ) محلات البيع بالجملة (ب) محلات البيع بالتجزئة (ج) محلات البيع بالجملة والتجزئة (د) محلات البيع بالجملة والتجزئة والتصدير (هـ) محلات البيع بالجملة والتجزئة والتصدير والتصدير (و) محلات البيع بالجملة والتجزئة والتصدير والتصدير والتصدير	(أ) محلات البيع بالجملة (ب) محلات البيع بالتجزئة (ج) محلات البيع بالجملة والتجزئة (د) محلات البيع بالجملة والتجزئة والتصدير (هـ) محلات البيع بالجملة والتجزئة والتصدير والتصدير (و) محلات البيع بالجملة والتجزئة والتصدير والتصدير والتصدير	(أ) محلات البيع بالجملة (ب) محلات البيع بالتجزئة (ج) محلات البيع بالجملة والتجزئة (د) محلات البيع بالجملة والتجزئة والتصدير (هـ) محلات البيع بالجملة والتجزئة والتصدير والتصدير (و) محلات البيع بالجملة والتجزئة والتصدير والتصدير والتصدير
(١٠) (نهاية البيانات)	(١١) (نهاية البيانات)	(١٢) (نهاية البيانات)	(١٣) (نهاية البيانات)	(١٤) (نهاية البيانات)	(١٥) (نهاية البيانات)
٢٠٢٣/١٠/١٢ ١١٣٢١ [١]	٢٠٢٤/٠٣/٠٦ ٢٨٣٧ [٢]	٢٠٢٤/٠٣/٠٦ ٢٨٣٧ [٢]	٢٠٢٤/٠٣/٠٦ ٢٨٣٧ [٢]	٢٠٢٤/٠٣/٠٦ ٢٨٣٧ [٢]	٢٠٢٤/٠٣/٠٦ ٢٨٣٧ [٢]
**** (نهاية البيانات) ****	**** (نهاية البيانات) ****	**** (نهاية البيانات) ****	**** (نهاية البيانات) ****	**** (نهاية البيانات) ****	**** (نهاية البيانات) ****



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إصدار مكتب جنوب القاهرة المميز تحريرا فى ٢٠٢٤/٠٣/٠٦ مسنول الطباعة هدى علي محمد محي الدين علي
** الآن... يمكنك تحديث بيانات سجلك التجارى من خلال خدمة الواتس أب ٠١٠٦٣٣٣٣٥٠٤ **



جمهورية مصر العربية
وزارة المالية
مصلحة الضرائب المصرية



فردى

عين شمس/٠٠٠

هارمونك للتجارة المتكاملة

احمد محمد الشربيني الشربيني

١٠٠٠٦٣ ش عبدالمحسن الوسىمى عين شمس

تجارة الجملة غير المتخصصة



كود النشاط 4690

بدء النشاط : ٢٠٢٣/٠١/٢٣

٢٠٢٨/٠٢/١٥

٢٠٢٣/٠٢/١٦

٧١١-٩٤٨-٤٨٨

2662256268004789

جمهورية مصر العربية وزارة المالية مصلحة الضرائب المصرية

البطاقة الضريبية

يحظر إستخدام هذه البطاقة إلا بمعرفة الممول أو وكيله القانوني.
وفي حالة العثور عليها، يرجى تسليمها إلى أقرب مأمورية ضريبية.

This card should be used by the tax payer or his legal agent.
If found, please hand it to the nearest tax office.



In case of losing or stealing please
call 16395 / (02) 27929911

في حالة الفقد أو السرقة يرجى الإتصال
بمصلحة الضرائب المصرية على أرقام
(02)27929911/16395



نموذج (٣) ض.ق.م

شهادة تسجيل

الضريبة على القيمة المضافة



منطقة : شرق القاهرة ثان

مأمورية : الزيتون

العنوان : ٢٠٤ شارع النزهة - الدور السادس و السابع

هذه شهادة منا بأن : هارمونك للتجارة المتكاملة - احمد محمد الشربيني الشربيني

العنوان : ٦٣ أش عبدالمحسن الوسيمي عين شمس

قد تم تسجيله وفقاً لنصوص قانون الضريبة على القيمة المضافة

تحت رقم : 488 - 948 - 711

وذلك اعتباراً من : 2023/03/19

تحريراً في : 2023/03/19

2028/03/18



مدير الإدارة

رئيس المأمورية

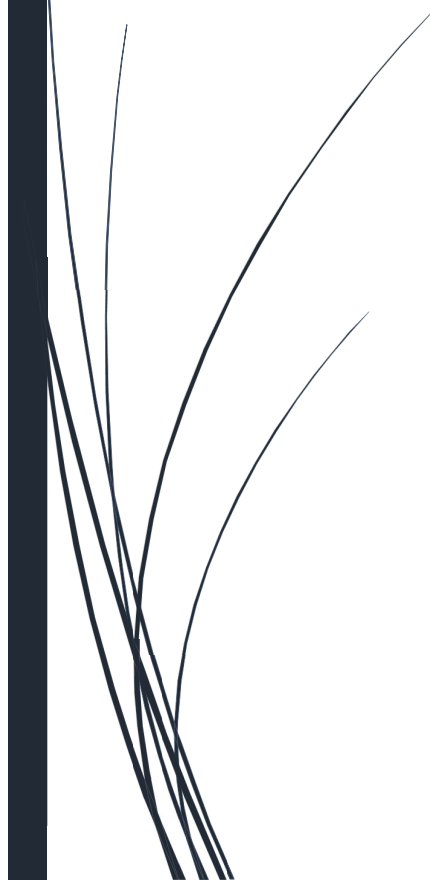
(رافقت خليل علام)

Data Material Adressable System

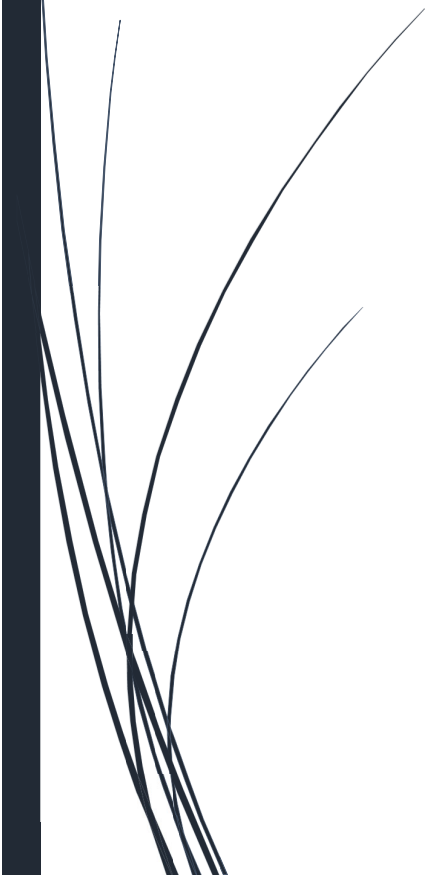


DATASHEETS

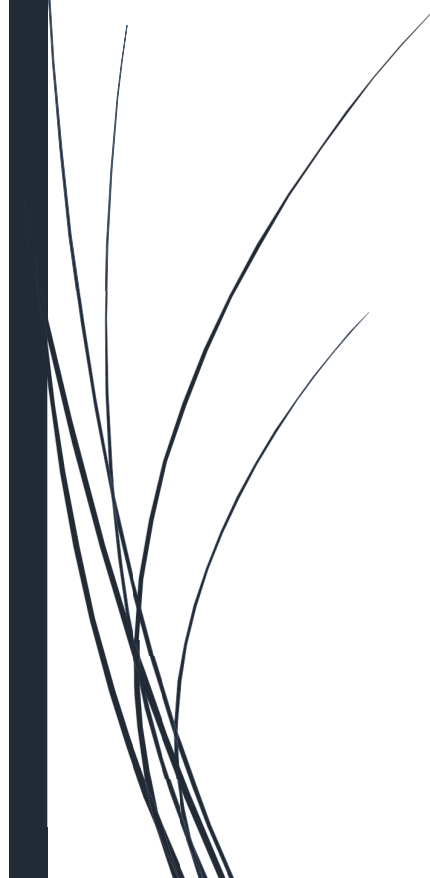
Adressable System



DATASHEETS
Fire Alarm Control Panels



PID : 4100-9701



Features



Figure 1: 4100ES Cabinets are available with one, two, or three bays (two bay cabinet with ES Touch Screen Display shown)

Master Controller (top) bay:

- Models available with Color ES Touch Screen Display (shown in Figure 1), Monochrome 2 line x 40 Character Display, or Monochrome InfoAlarm Display
- 32-Bit Master Controller with color-coded operator interface including raised switches for high-confidence feedback
- Dual configuration program CPU, convenient service port access, and capacity for up to 3000 addressable points
- CPU assembly includes 2 GB dedicated compact flash memory for on-site system programming and information storage
- ES Power Supply (ES-PS) and charger with onboard alarm relay, programmable auxiliary power output and provisions for one 4 in. x 10 in. or two 4 in. x 5 in. compatible option cards such as IDNet2 addressable device interface, Conventional NAC or Addressable IDNAC SLC modules; refer to 579-1288 installation instructions for additional details
- Upgrade kits are available for existing control panels

Network compatibility:

Compatible with Simplex ES Net or 4120 Fire Alarm Networks

Standard addressable interfaces include:

- 250 point addressable IDNet 2 SLC channel with electrically isolated dual short circuit isolating loops that supports TrueAlarm analog sensors and IDNet communications monitoring and control devices
- Remote annunciator module support through RUI+ (remote unit interface) communications port

Optional modules include:

- Building Network Interface Module (BNIC) for Ethernet connectivity options, refer to data sheet **S4100-0061**
- Electrically isolated output IDNet 2 (two loop) and IDNet 2+2 (four loop) modules with short circuit isolation output loops allowing use with either shielded or unshielded, twisted or untwisted single pair wiring
- Fire Alarm Network Interfaces, DACTs, city connections, and up to five RS-232 ports for printers and terminals
- Compatible with Connected Services Gateway to support central station communication and enable SafeLINC Cloud Services, refer to datasheet **S2080-0091**
- MAPNET II addressable device modules and MAPNET II quad isolator modules
- IDNAC signalling line circuits (SLCs) for addressable appliance control
- Alarm relays, auxiliary relays, additional power supplies, IDC modules, NAC expansion modules
- Service modems, VESDA Air Aspiration Systems interface, ASHRAE BACnet Interface, TCP/IP Bridges
- LED/switch modules and panel mount printers
- Emergency communications systems (ECS) equipment; 8 channel digital audio or 2 channel analog audio
- 8-point zone/relay module, each point is selectable as an IDC input or relay output. Class A IDCs require two points (one out and one return). Relays rated for 2 A @ 30 VDC (resistive) and configurable as either normally open or normally closed.
- Compatible with Simplex remotely located 4009 IDNet NAC Extenders, up to ten for each IDNet SLC

Listings information*

- UL 864, Fire Detection and Control (UOJZ), Smoke Control Service (UUKL), Releasing Device Service (SYZV), Emergency Communication and Relocation Equipment (UOQY)
- UL 1076, Proprietary Alarm Units - Burglar (APOU)
- UL 2017, Process Management Equipment (QVAX), Emergency Alarm System Control Units (FSZI)
- UL 1730, Smoke Detector Monitor (UULH)
- UL 2572, Mass Notification Systems (PGWM)
- CAN/ULC-S527 Control Units for Fire Alarm Systems (UOJZ7), Releasing Device Service (SYZV7)
- CAN/ULC-S559 Central Station Fire Alarm System Units (DAYR7)
- ULC/ORD-C1076 Proprietary Burglar Alarm Units and Systems (APOU7)
- ULC/ORD-C100 Smoke Control System Equipment (UUKL7)

Software Feature Summary

CPU provides dual configuration programs

- Two programs allow for optimal system protection and commissioning efficiency with one active program and one reserve
- Downtime is reduced because the system stays running during download

PC based programmer features

- Convenient front panel accessed Ethernet port for quick and easy download of site-specific programming
- Modifications can be uploaded as well as downloaded for greater service flexibility

* See module information sections for product that is UL or ULC listed and additional listing information. This product has been listed by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7165-0026:251(4100ES) for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. At the time of publication only UL and ULC listings are applicable to ES Net network products. Additional listings may be applicable; contact your local Simplex product supplier for the latest status

- Firmware enhancements are made through software downloads to the on-board flash memory

Operator interface features

- TrueAlarm individual analog sensing with front panel information and selection access
- "Dirty" TrueAlarm sensor maintenance alerts, service and status reports including "almost dirty"
- TrueAlarm magnet test indication appears as distinct "test abnormal" message on display when in test mode
- TrueAlarm sensor peak value performance report
- **Install Mode** allows grouping of multiple troubles for uninstalled modules and devices into a single trouble condition, typical with future phased expansion; with future equipment and devices grouped into a single trouble, operators can more clearly identify events from the commissioned and occupied areas
- Module level ground fault searching assists installation and service by locating and isolating modules with grounded wiring
- **Recurring Trouble Filtering** allows the panel to recognize, process, and log recurring intermittent troubles, such as external wiring ground faults, but only sends a single outbound system trouble to avoid nuisance communications
- **WALKTEST** silent or audible system test performs an automatic self-resetting test cycle

Introduction

4100ES Series Fire Detection and Control Panels provide extensive installation, operator, and service features with point and module capacities suitable for a wide range of system applications. An on-board Ethernet port provides fast external system communications to expedite installation and service activity. Dedicated compact flash memory archiving provides secure on-site system information storage of electronic job configuration files.

Modular design

A wide variety of functional modules are available to meet specific system requirements. Selections allow panels to be configured for either Stand-Alone or Networked fire control operation. InfoAlarm Command Center options provide convenient expanded display content, detailed on data sheet [S4100-1045](#).

Module Bay Description

The Master Controller Bay (top) includes a standard multi-featured ES power supply, the master controller board, expansion space for optional features, and operator interface equipment.

The Expansion Bays include a Power Distribution Interface (PDI) for new 4 in. x 5 in. flat design option modules and also accommodate 4100-style modules.

The Battery Compartment (bottom) accepts two batteries, up to 50 Ah, to be mounted within the cabinet without interfering with module space.

Figure 2 identifies bay locations using a three bay cabinet for reference.

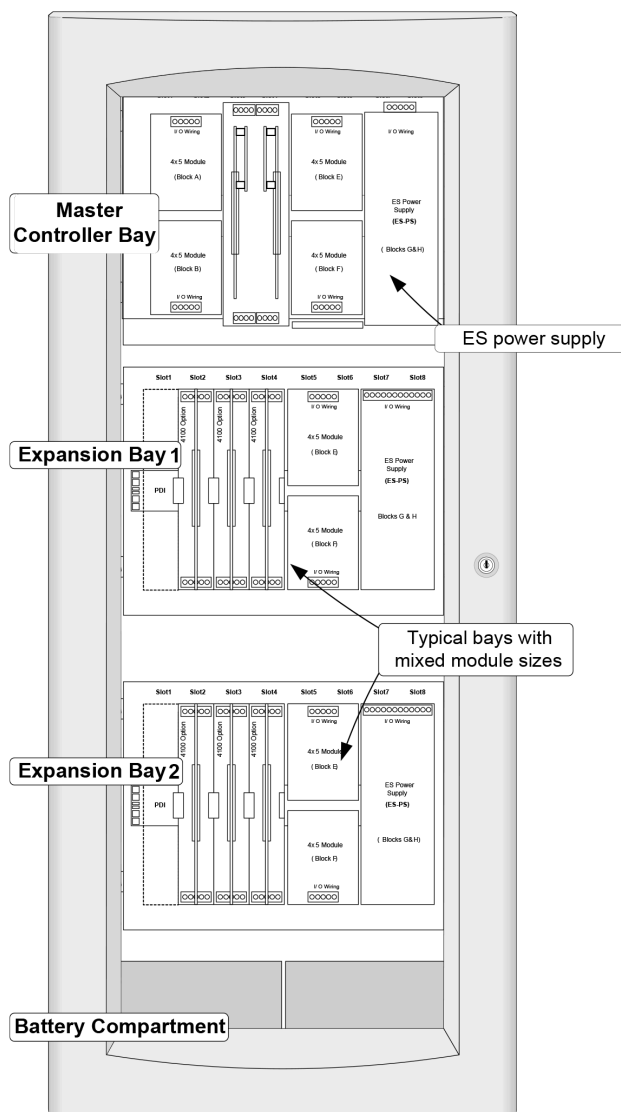


Figure 2: 4100ES Module Bay Reference

Mechanical Description

- Boxes can be close-nipped; each box provides convenient stud markers for drywall thickness and nail-hole knockouts for quicker mounting
- Smooth box surfaces are provided for locally cutting conduit entrance holes exactly where required
- The latching dress panel (retainer) assembly easily lifts off for internal access
- NACs can be mounted directly on power supply assemblies providing minimized wiring loss, compact size, and readily accessible terminations
- Packaging supports traditional 4100-style motherboard with daughter cards
- Modules are power-limited except as noted, such as relay modules
- The NEMA 1/IP30 box is ordered separately and available for early installation
- Doors are available with tempered glass inserts or solid; boxes and doors are available in platinum or red
- Boxes and door/retainer assemblies are ordered separately per system requirements; refer to data sheet **S4100-0037** for details

Operator Interface Detail Reference

4100ES Fire Alarm Control Units are provided with either an enhanced Color ES Touch Screen Display or a basic Monochrome 2 Line by 40 Character operator interface depending on the model selected. The following illustrations highlight the primary functions of each.

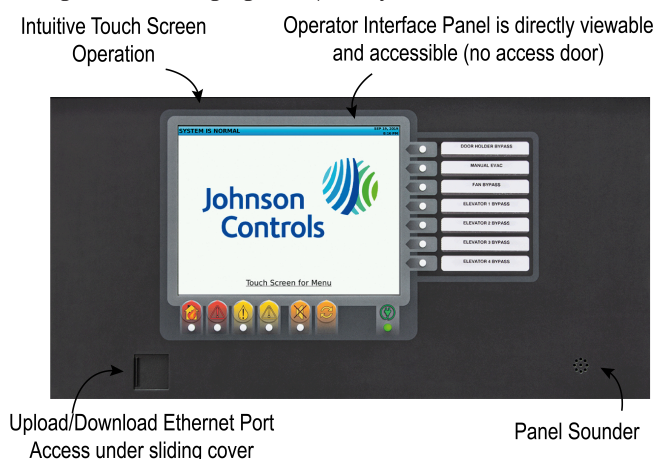


Figure 3: ES Touch Screen Display Interface

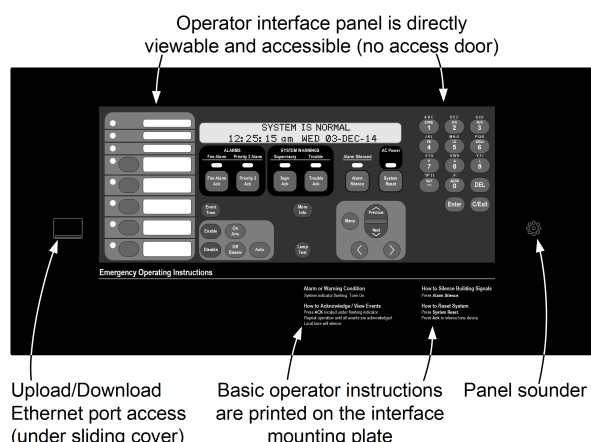


Figure 4: 2 x 40 Operator Interface

Compatible Peripheral Devices

The 4100ES is compatible with an extensive list of remote peripheral devices including printers, CRT/keyboards (up to five total), and both conventional and addressable devices including TrueAlarm analog sensors and TrueAlert addressable appliances.

Master Controller Bay Module Details

Master Controller and Motherboard

- Master Controller mounts in Slot 2 of a two slot motherboard and provides one Class B or Class A, RUI+ communications channel configurable for isolated or un-isolated operation
- Slot 1 of the motherboard is primarily for an optional network interface card, or secondarily for the 4100-6038 dual RS-232 board
- RUI+ and RUI communications controls up to 31 remote devices per master controller at up to 2500 ft (762 m) for single run, or 10,000 ft (3048 m) total if wiring is Class B and T-tapped; if more distance is required, up to four total RUI channels are supported; add up to three 4100-1291 RUI Expansion Modules (4100-1291 provides unisolated RUI communications)
- Compatible RUI+ and RUI remote equipment includes: MINIPLEX transponders, 4603-9101 LCD Annunciators, 4602-9101 Status Command Units (SCU), 4602-9102 Remote Command Units (RCU), 4602 Series LED Annunciator Panels, 4100 Series 24 I/O and LED/Switch modules, (4602 series annunciators require un-isolated communications)
- Up to four RUI channels (combination of built-in RUI+ and optional RUI modules) are supported per master controller
- Open slot space on the left of the CPU motherboard is available for either another dual slot motherboard, or for one or two block modules, see Figure 14

ES-PS Master Controller Power Supply

- Rating is up to 9.5 A total without a fan or up to 12.7A total with a fan using Special Application appliances; or up to 5 A total with Regulated 24 DC appliance loads.
- Outputs are power-limited, except for battery charger and city circuits.
- Provides system power, battery charging, auxiliary power, auxiliary relay, earth detection, electrically isolated IDNet 2 communications channel for 250 points (4100-3117), three 3 A conventional NACs (4100-5450) or three 3 A IDNAC addressable SLCs (4100-5451), two block spaces for compatible optional modules and provisions for either an optional City Connect Module or an optional Alarm Relay Module (City Connect or Alarm Relay module requires one available block space).
- IDNet 2 SLC Output** (4100-3109 and 4100-3117) provides an electrically isolated Class B or Class A communications channel with dual short circuit isolating loops for up to 250 addressable devices, as described in Addressable Device Control (requires one block space from ES-PS power supply or Master Controller bay).
- Conventional NAC Module** (4100-5450) provides three outputs individually selectable as a Conventional NAC (Class B or Class A) or an Auxiliary Power output. When mounted on the ES-PS power supply, each NAC is rated at 3 A for Special Application appliances (9 A max per card) or 2 A for Regulated 24 DC loads (4 A max per card). NAC operation supports synchronized strobe or SmartSync horn/strobe operation over two wires. Auxiliary power outputs are rated for 3 A continuous duty. The total auxiliary power output per power supply is limited to 5 A (requires one block space).
- IDNAC Addressable Notification SLC Module** (4100-5451) provides three 3 A IDNAC addressable notification SLCs compatible with both TrueAlert ES and TrueAlert addressable notification appliances and remote 4009 IDNAC Repeaters used to extend power and wiring distances (requires two block spaces).
- DCAI (Dual Class A IDNAC Isolator) Module** (4100-6103) creates two Class A outputs from one IDNAC SLC Class B Input; up to two can

be connected to one IDNAC SLC, with up to 6 total per ES-PS power supply; total Class A output loop current is limited to the 3 A rating of the IDNAC SLC (requires one block space).

- **Battery Charger** is dual rate, temperature compensated, and charges up to 50 Ah sealed lead-acid batteries mounted in the battery compartment (33 Ah for single bay cabinets); also is UL and ULC listed for charging up to 110 Ah batteries mounted in an external cabinet, refer to data sheet S2081-0012 for details.
- **Battery and Charger Monitoring** includes battery charger status and low or depleted battery conditions; status information provided to the master controller includes analog values for: battery voltage, charger voltage and current, actual system voltage and current, individual NAC currents, and individual IDNAC SLC currents.
- **Low Battery Cutout** is selectable for each ES-PS power supply.
- **2 A Programmable Output** is selectable for conventional SNAC or Auxiliary power operation. SNAC operation supports conventional non-synchronous NAC operation to provide supervised reverse polarity for sounder base power, Suppression Release Peripheral (SRP) power, or other coded NAC operation requirements. Auxiliary (AUX) power operation can be used for sounder base power, four-wire detector power, or door holder; relay is selectable as N.O. or N.C and rated for 2 A @ 32 VDC and 30 VAC (resistive); supervised AUX operation does not require an end-of-line relay to provide Power-Limited operation.
- **Auxiliary Relay** is selectable as N.O. or N.C., rated 2 A @ 32 VDC or 30 VAC (resistive), and is programmable as a trouble relay, either normally energized or normally de-energized, or as an auxiliary control.
- **Optional City Connect Module** (4100-6031, with disconnect switches, or 4100-6032, without disconnect switches) can be selected for conventional dual circuit city connections (requires one block space).
- **Optional Alarm Relay Module** (4100-6033) provides three Form C relays that are used for Alarm, Trouble, and Supervisory, rated 2 A resistive @ 32 VDC (requires one block space).

IDNet SLC for Addressable Device Communications

Overview

The 4100ES provides standard addressable device communications for IDNet compatible devices and accepts optional modules for communications with MAPNET II compatible devices. Using a two wire communications circuit, individual devices such as manual fire alarm stations, TrueAlarm sensors, conventional IDC zones, and sprinkler waterflow switches can be interfaced to the addressable controller to communicate their identity and status.

Addressability allows the location and condition of the connected device to be displayed on the operator interface LCD and on remote system annunciators. Additionally, control circuits (fans, dampers, etc.) may be individually controlled and monitored with addressable devices.

Addressable Operation

Each addressable device on the communication channel is continuously interrogated for status condition such as: normal, off-normal, alarm, supervisory, or trouble. Both Class B and Class A operation are available. Sophisticated poll and response communication techniques ensure supervision integrity and allow for "T-tapping" of the circuit for Class B operation. Devices with LEDs pulse the LED to indicate receipt of a communications poll and can be turned on steady from the panel.

IDNet Channel Capacity

The CPU bay ES-PS provides an IDNet 2 signaling line circuit (SLC) that supports up to 250 addressable monitor and control points intermixed on the same pair of wires. IDNet 2 and IDNet 2+2 Module SLCs are isolated from other system reference voltages to reduce common mode noise interaction with adjacent system wiring. Additional 250 address IDNet 2 or IDNet 2+2 Modules are available, see Table 20.

Table 1: IDNet, MAPNET II, IDNet 2, and IDNet 2+2 SLC Wiring Common Specifications

Specification	Description	
Maximum Distance from Control Panel per Device Load	1 to 125	4000 ft (1219 m); 50 ohms
	126 to 250	2500 ft (762 m); 35 ohms
Connections	Terminals for 18 to 12 AWG (0.82 mm ² to 3.31 mm ²)	

Table 2: IDNet and MAPNET II Specifications

Specification	Description	
Wire Type	New Installation	Shielded twisted pair (STP)
	Retrofit Only	Unshielded twisted pair (UTP)
Total Wire Length Allowed With "T" Taps for Class B Wiring	Up to 10,000 ft (3 km); 0.58 µF	

Note: For retrofit installations consult with your local Simplex product supplier, restrictions may apply.

Table 3: IDNet 2 and IDNet 2+2 Wiring Specifications

Specification		Description
Wire Type	New Installation	Unshielded twisted pair (UTP)
	Retrofit Only	Shielded or unshielded, twisted or untwisted wire
Total Wire Length Allowed With "T" Taps for Class B Wiring		Up to 12,500 ft (3.8 km); 0.60 μF
Maximum Capacitance Between IDNet 2 Channels		1 μF
IDNet 2 and IDNet 2+2 Module Compatibility: IDNet communicating devices and TrueAlarm sensors including QuickConnect and QuickConnect2 sensors		

Note: For retrofit installations consult with your local Simplex product supplier, restrictions may apply.

TrueAlarm System Operation

Addressable device communications include operation of TrueAlarm smoke and temperature sensors. Smoke sensors transmit an output value based on their smoke chamber condition and the CPU maintains a current value, peak value, and an average value for each sensor. Status is determined by comparing the current sensor value to its average value. Tracking this average value as a continuously shifting reference point filters out environmental factors that cause shifts in sensitivity.

Programmable sensitivity of each sensor can be selected at the control panel for different levels of smoke obscuration (shown directly in percent) or for specific heat detection levels. To evaluate whether the sensitivity should be revised, the peak value is stored in memory and can be easily read and compared to the alarm threshold directly in percent.

CO sensor bases combine an electrolytic CO sensing module with a TrueAlarm analog sensor to provide a single multiple sensing assembly using one system address. The CO sensor can be enabled/disabled, used in LED/Switch modes and custom control, and can be made public for communication across a fire alarm Network. Refer to data sheet S4098-0052 for details.

TrueAlarm heat sensors can be selected for fixed temperature detection, with or without rate-of-rise detection. Utility temperature sensing is also available, typically to provide freeze warnings or alert to HVAC system problems. Readings can be selected as either Fahrenheit or Celsius.

TrueSense Early Fire Detection

Multi-sensor 4098-9754 provides photoelectric and heat sensor data using a single 4100ES IDNet address. The panel evaluates smoke activity, heat activity, and their combination, to provide TrueSense early detection. For more details on this operation, refer to data sheet *S4098-0024*.

Diagnostics and Default Device Type

Sensor Status

TrueAlarm operation allows the control panel to automatically indicate when a sensor is almost dirty, dirty, and excessively dirty. The NFPA 72 requirement for a test of the sensitivity range of the sensors is fulfilled by the ability of TrueAlarm operation to maintain the sensitivity level of each sensor. CO Sensors track their 10 year active life status providing indicators to assist with service planning. Indicators occur at: 1 year, 6 months, and when end of life is reached.

Modular TrueAlarm sensors

TrueAlarm sensors use the same base and different sensor types (smoke or heat sensor) and can be easily interchanged to meet specific location requirements. This allows intentional sensor substitution during building construction when conditions are temporarily dusty. Instead of covering smoke sensors (causing them to be disabled), heat sensors may be installed without reprogramming the control panel. The control panel will indicate an incorrect sensor type, but the heat sensor will operate at a default sensitivity to provide heat detection for building protection at that location.

IDNAC SLC for Addressable Notification Appliance Communications

IDNAC Addressable notification appliance communications

include operation of TrueAlert and TrueAlert ES Visible only (V/O, strobe), Audible only (A/O, horn), Audible/Visible (A/V, horn/strobe), and strobes of Speaker/Visible (S/V) notification appliances. (S/V appliances require separate speaker wiring.) IDNAC SLC addressable communications allow each horn and strobe to be individually controlled using a single two-wire circuit, confirms the wiring connections to the individual notification appliance's electronic circuit, and confirms communications between each appliance and the fire alarm control unit. Addressable communications increases supervision integrity versus conventional notification systems by providing supervision beyond the circuit wiring to each individual appliance and by constantly verifying the ability of each appliance to communicate with the control panel.

Individual Appliance Status and Settings

The fire alarm control panel monitors and records each addressable notification appliance status, type of appliance, and its configured appliance settings. A fault in any individual appliance automatically reports a trouble condition to the control panel.



Figure 5: TrueAlert ES Addressable Appliance Reference

Virtual NACS Provide Control Convenience

For control convenience, IDNAC notification appliances can be grouped into *Virtual NACS* (VNACS) for group control, grouping that can be made across SLCs, not defined by their wiring connection.

Panel Control Convenience

Applicable operation settings for each appliance can be programmed *without having to replace appliances or remove them from the wall or ceiling*. An appliance's VNAC notification zone can be easily changed through programming without having to add additional circuits, conduit, and wiring. Audible and visible appliances for non-Fire Emergency Communications notification can be programmed to operate separately *on the same pair of wires as the fire alarm notification appliances*. The result is lower installation, retrofit, and overall life-cycle cost of ownership compared with traditional conventional notification systems.

Installation, Retrofit, and Life-Cycle Cost Benefits

With each addressable appliance capable of being controlled separately on the same two-wire IDNAC SLC, installation time and expense for both retrofit and new construction can be significantly reduced. When Class B wiring is used, wiring can be "T-tapped" allowing more savings in distance, wire, conduit (size and utilization), and overall installation efficiency.

Location Information, Diagnostics and Troubleshooting

Each addressable notification appliance has its own 40 character custom label to identify the location of the appliance and to aid in troubleshooting fault conditions. In conventional notification systems, conventional appliances are not capable of communicating with the control panel. Fault reporting on a conventional system is limited to the circuit wiring and the entire area (zone) covered by appliances on the notification appliance circuit (NAC) making it much more difficult and costly to locate and correct the source of a problem. Using the TrueAlert *magnet test* allows each appliance to individually identify its candela setting and address and to briefly operate if desired, and using the *TrueAlert ES Appliance Self-Test feature provides detailed performance verification per appliance*.

TrueAlert ES Appliance Self-Test Operation

On-Board Test Sensors

TrueAlert ES appliances are equipped with on-board sensors to detect strobe and/or horn output allowing efficient and unobtrusive Self-Testing. When **Automatic Self-Test** is initiated from the control panel, each appliance within the selected VNAC group will briefly operate and then report its Self-Test status to the control panel, all within several seconds. Silent Self-Test can be selected to test only visible appliance if desired. The control panel is in a trouble condition during testing and in the event of an alarm, Self-Test is automatically terminated.

Additionally, Automatic Self-Test can be scheduled to occur at a convenient time on a regular basis (Requires version 2.03.01 or higher software).

Automatic Self-Test

Automatic Self-Test results are communicated to the control panel with a time and date stamp and are stored in memory. Results are viewable at the front panel display and printed reports can be generated from the panel service port.

Individual Self-Test

Individual Self-Test is selected from the control panel when individual appliances need to be observed to operate. Each appliance in the selected VNAC group will turn on its LED until individually activated by applying a magnet. After performing the individual test, the appliance LED turns off to indicate completion. Results are recorded the same as during the automatic test.

TrueAlert ES Appliance Self-Test Last Test Results Report Example

Service Port				Page 1
REPORT 10 TrueAlertES Self-Test Report				12:34:56pm WED 03-DEC-14
Point ID	Custom Label	Date	Visual	Audible
T1-1-1	VO FIRST FLOOR (up to 40 characters)	03-DEC-14	NO OUT	N/A
T1-2-5	AV FIRST FLOOR EAST WING	03-DEC-14	NO OUT	NORMAL
T7-3-55	AO SECOND FLOOR EAST WING	03-DEC-14	N/A	NO OUT
T8-2-45	AV SECOND FLOOR ROOM 29	03-DEC-14	NOT TST	N/A
T8-2-60	AV SECOND FLOOR ROOM 22	03-DEC-14	NORMAL	NORMAL
T1-2-4	AO FIRST FLOOR ROOM 17	03-DEC-14	N/A	UNSUPP
TRUEALERT_ES SELF-TEST REPORT COMPLETED				
Press RETURN for next Screen OR CTRL-X to abort				

Results Description

- **NORMAL** = Works correctly
- **NO OUT** = No Output, no light or sound was detected
- **NOT TST** = No result. Either the appliance did not return a result before the test ended or the test was conducted as silent (strokes only) and audible appliance was not activated
- **N/A** = Not applicable (no strobe, on audible only, etc.)
- **UNSUPP** = Appliance not compatible with Self-Test (TrueAlert addressable appliance not TrueAlert ES addressable appliance)

Note: Additional TrueAlert ES Self-Test information is detailed in ES Operating Instructions 579-197 shipped with the panel.

TrueAlert ES Appliance Self-Test All Test Results Report Example

Service Port				Page 1
REPORT 10 TrueAlertES Self-Test Report				12:34:56pm WED 03-DEC-14
Point ID	Custom Label	Date	Visual	Audible
T1-1-1	VO FIRST FLOOR	03-DEC-14	NO OUT	N/A
T1-2-5	AV FIRST FLOOR EAST WING	03-DEC-14	NO OUT	NORMAL
T1-2-6	AV FIRST FLOOR NORTH ENTRANCE	30-OCT-14	NO OUT	NORMAL
T7-3-55	AO SECOND FLOOR EAST WING	03-DEC-14	N/A	NO OUT
T8-2-45	AV SECOND FLOOR ROOM 29	03-DEC-14	NOT TST	N/A
T1-1-11	AV FIRST FLOOR SOUTH ENTRANCE	30-OCT-14	NORMAL	NORMAL
T8-2-60	AV SECOND FLOOR ROOM 22	03-DEC-14	NORMAL	NORMAL
T1-2-4	AO FIRST FLOOR ROOM 17	03-DEC-14	N/A	UNSUPP
T1-2-7	AO FIRST FLOOR ROOM 12	30-OCT-14	N/A	UNSUPP
T8-3-43	AV SECOND FLOOR ROOM 25	30-OCT-14	UNSUPP	UNSUPP
TRUEALERT_ES SELF-TEST REPORT COMPLETED				
Press RETURN for next Screen OR CTRL-X to abort				

TrueAlert ES Appliance Self-Test Individual Appliance Report Example

CUSTOM LABEL	
4-1-2	AV
POINT ADDRESS: 4-1-2	Type: AV
CARD: 4 CHANNEL: 1 DEVICE: 2	
EXTENDED POWER SUPPLY	
UNIT NUMBER: 2	RUI NUMBER: LOCAL
PRIMARY STATUS	
NORMAL	
AUDIBLE GROUP CONFIG:	0 0 0
VISUAL GROUP CONFIG:	0 0 0
STYLE:	INDOOR
OPERATION:	GENERAL EVAC
CANDELA RATING	15 CD
COLOR LENS	YES
TONE TYPE	BROADBAND
CODING TYPE	TEMPORAL
VOLUME	HIGH
LAST TEST TIME:	MON 02-JUN-14 01:00 AM
LAST VISUAL TEST:	NORMAL
LAST AUDIBLE TEST:	NORMAL
LAST TEST VOLUME:	NORMAL
DEVICE TEST TROUBLE:	NORMAL

IDNAC SLC Hardware Reference

ES-PS Power Supplies

ES-PS Power Supplies configured with an IDNAC card provide three, 3 A IDNAC SLCs for control and power to TrueAlert ES and TrueAlert addressable notification appliances. Both power supplies incorporate an efficient switching design that provides a regulated output of 29 VDC, even during battery operation. With 29 VDC minimum output at the panel, addressable notification SLCs can support wiring distances two to three times farther than available with conventional notification, or support more appliances per SLC, or work with smaller gauge wiring, or combinations of these benefits, all resulting in installation and maintenance savings with high assurance that appliances that operate during normal system testing will operate during worst case alarm conditions.

IDNAC SLC Appliance Wiring Reference

IDNAC SLC Capacity

Up to 127 addresses and up to 139 unit loads (appliances are typically one unit load, devices such as Isolators may require more than one load, refer to individual device data sheet for specific information)

Table 4: IDNAC SLC Appliance Wiring Reference

Specification	Rating
Recommended wire type	Unshielded twisted pair (UTP)
Maximum wire length allowed with "T-Taps" for Class B wiring, per SLC	10,000 ft (3048 m)
Maximum wire length per SLC to any appliance	4000 ft (1219 m)
Appliance Supervisory Current	1 unit load = 0.8 mA per appliance
Wiring connections	Terminals for 18 to 12 AWG (0.82 mm ² to 3.31 mm ²)
Installation Instructions (see for more information)	579-1015

8-Point Zone/Relay Module Details

- **Select as IDC or Relay;** configure up to eight Class B IDCs, or up to four Class A IDCs; or up to eight Relay outputs rated 2 A resistive @ 30 VDC (N.O. or N.C.); or combinations of IDCs and Relays; each zone is separately configurable as an IDC or Relay output
- **IDC Support:** each IDC supports up to 30, two-wire devices. Zone relay modules may be powered directly from the control unit power supply or through the optional 25 VDC regulator module where required for two-wire detector compatibility. Refer to 2-Wire Detector Compatibility document 579-832 for additional details.
- **IDC EOL resistor values are selectable as:** 3.3 kΩ, 2 kΩ, 2.2 kΩ, 3.4 kΩ, 3.9 kΩ, 4.7 kΩ, 5.1 kΩ, 5.6 kΩ, 6.34/6.8 kΩ, and 3.6 kΩ + 1.1 kΩ; see instructions for more details

Color ES Touch Screen Display

The Color ES Touch Screen Display interface offers intuitive operation similar to a tablet or smart phone. With a larger area format versus an individual text line display, more information is available at a glance, and minimal key presses are needed to access detailed information.

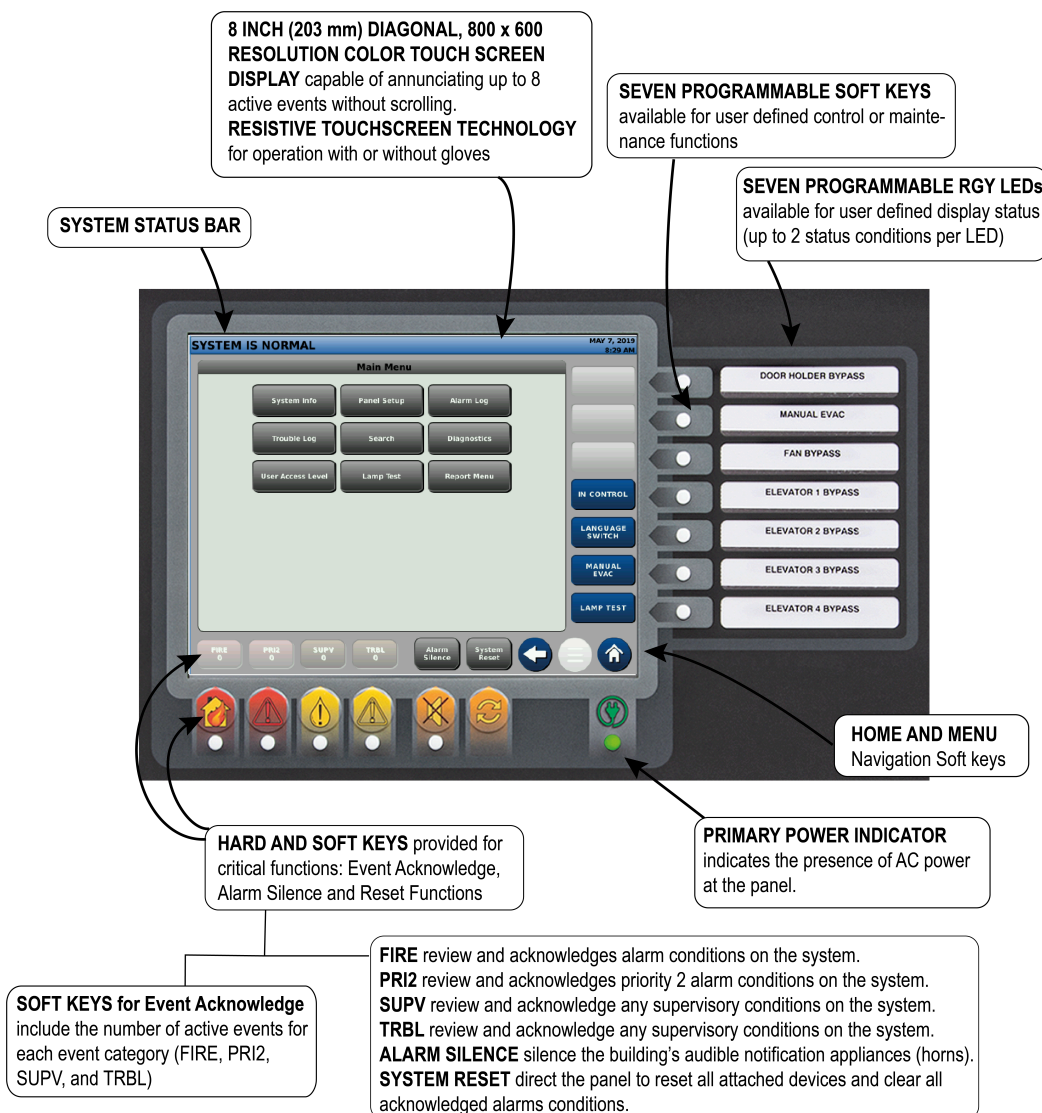


Figure 6: ES Touch Screen Display Operator Interface

Features

ES Touch Screen Displays provide customized operating experience

- Event activity display choices include: First 8 Events; or First 7 Events with emphasis on Most Recent; or First 6 Events with emphasis on First and Most Recent (individually selectable for each event type)
- System reports are easily viewable; logs can be read with minimal scrolling
- Up to two languages are available per system, easily selected by programmable key press
- Information sent to Remote ES Touch Screen Displays can be vectored by point or zone
- Both Hard and Soft keys available for critical functions: Event Acknowledge, Alarm Silence, and Reset Functions
- Resistive touchscreen technology allows operation with or without gloves
- Seven programmable RGY LEDs available for user-defined display status (up to 2 status conditions per LED)
- Seven programmable Soft keys available for user-defined control or maintenance functions
- PRI2 Soft key label can be changed to CO to annunciate Carbon Monoxide detection status
- ES Touch Screen Display can be programmed to report individual points or groups of points as a single zone
- Supports ability to display a custom watermark background file of a company logo or other desired display content
- Seismically compliant under the State of California Statewide Office of Housing and Development (OSHPD) Special Seismic Certification (SSC) program guidelines. Refer to *Simplex Seismic Application Guide* 579-1213 and *Battery Brackets for Seismic Activity Applications* S2081-0019 for details.

Display properties

- 8 inch (203 mm) diagonal, 800 x 600 resolution color touch screen display capable of annunciating up to 8 active events without scrolling
- Bright white LED backlighting provides efficient and long lasting illumination; backlight is dim in quiescent state, automatically switches to full power on touch or on event activity in system.

Description

ES Touch Screen Displays for 4100ES fire alarm systems provide a large display with extended information content, dual language support including UTF-8 character languages, and an intuitive control key interface per the following:

- Up to 10 ES Touch Screen Displays are supported per 4100ES control panel; able to allow one ES Touch Screen Display to take-control and to designate access levels for interfaces not in-control; programmable LEDs can be assigned to in-control status indications
- Menu-driven format conveniently prompts operators for the next action required
- Direct point callup displays individual points alphabetically and then homes in on the logical choice as more point information is entered
- Event categories are color coded for quick visual representation; Red for Alarm and Priority 2 Events; Yellow for Supervisory and Trouble events
- Date formats are either MM/DD/YY or DD/MM/YY
- Time formats are either 24 hour or 12 hour with AM/PM
- System Normal screen supports a color background (watermark) for company name, company logo, or other desired display content

Example Display Screens

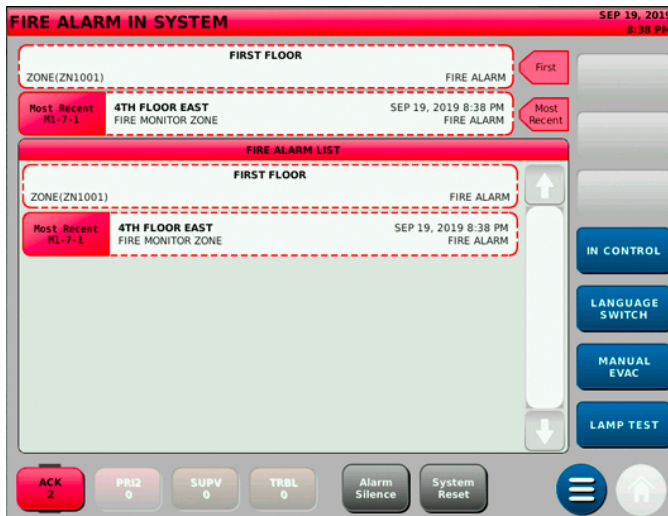


Figure 7: First and Most Recent Alarm Display



Figure 8: Main Menu

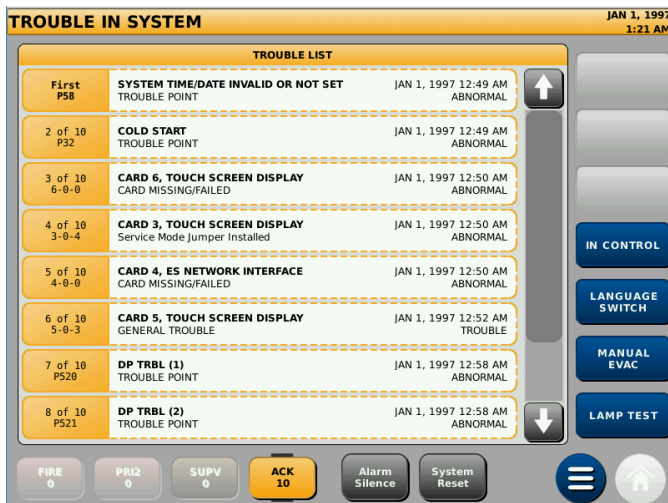


Figure 9: First Eight Active Trouble Events List

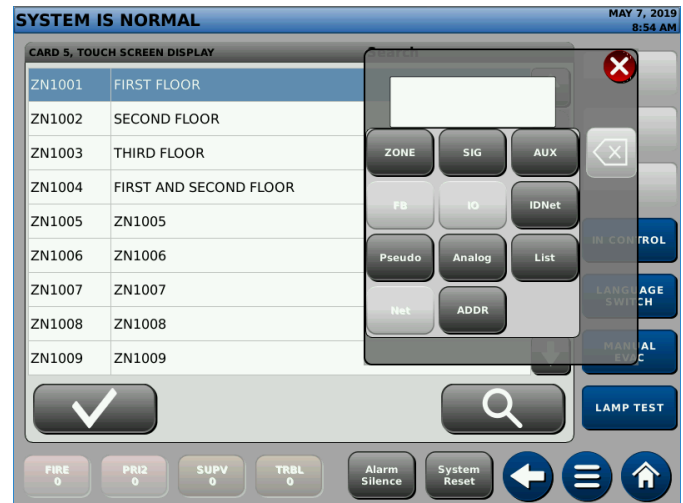


Figure 10: Direct Point Callup

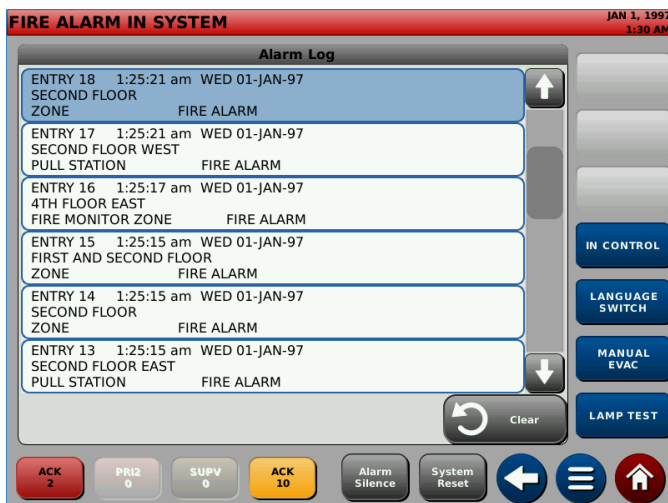


Figure 11: Alarm History Log

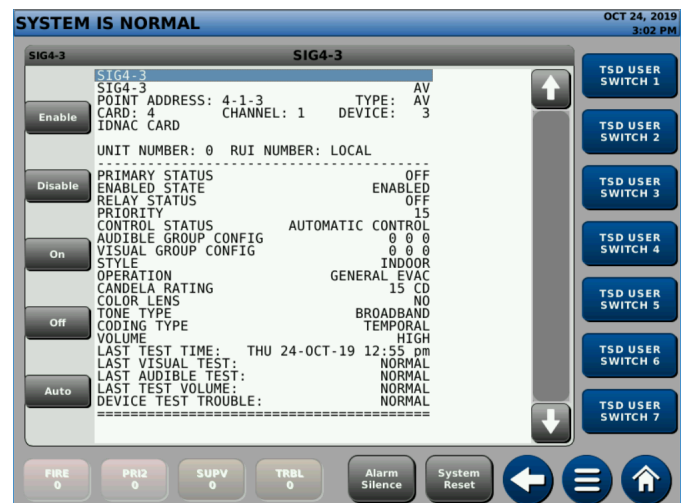


Figure 12: Detailed Point Status Screen for TrueAlert ES Appliance

Specifications

Table 5: General ES Touch Screen Display Specifications

Specification	Rating
Resolution	800 x 600 Pixels (RGB)
Size / Type	8 inch (203 mm) Diagonal / Color Touch Screen
Touch Screen Technology	Resistive
Event Display	Up to 8 Events without scrolling
Normal Screen Custom Watermark File Format	680 x 484 Pixels: BMP, JPG, TIFF, GIF or PNG file format
Environmental	Operating Temperature: 32°F to 120°F (0°C to 49°C)
	Operating Humidity: Up to 93% RH, non-condensing @ 90°F (32°C) maximum

Operator Interface with Monochrome 2 x 40 LCD

With the locking door closed, the glass window allows viewing of the display, status LEDs, and available operator switches. Features include a two-line by 40-character, wide viewing angle (super-twist) LCD with status LEDs and switches as shown in Figure 13.

LED indicators describe the general category of activity being displayed with the LCD providing more detail. For the authorized user, unlocking the door provides access to the control switches and allows further inquiry by scrolling the display for additional detail.

- Convenient and extensive operator information is provided using a logical, menu-driven display
- Multiple automatic and manual diagnostics for maintenance reduction
- Alarm and Trouble History Logs (up to 1000 entries for each, 2000 total events) are available for viewing from the LCD, or capable of being printed to a connected printer, or downloaded to a service computer
- Convenient PC programmer label editing
- Password access control

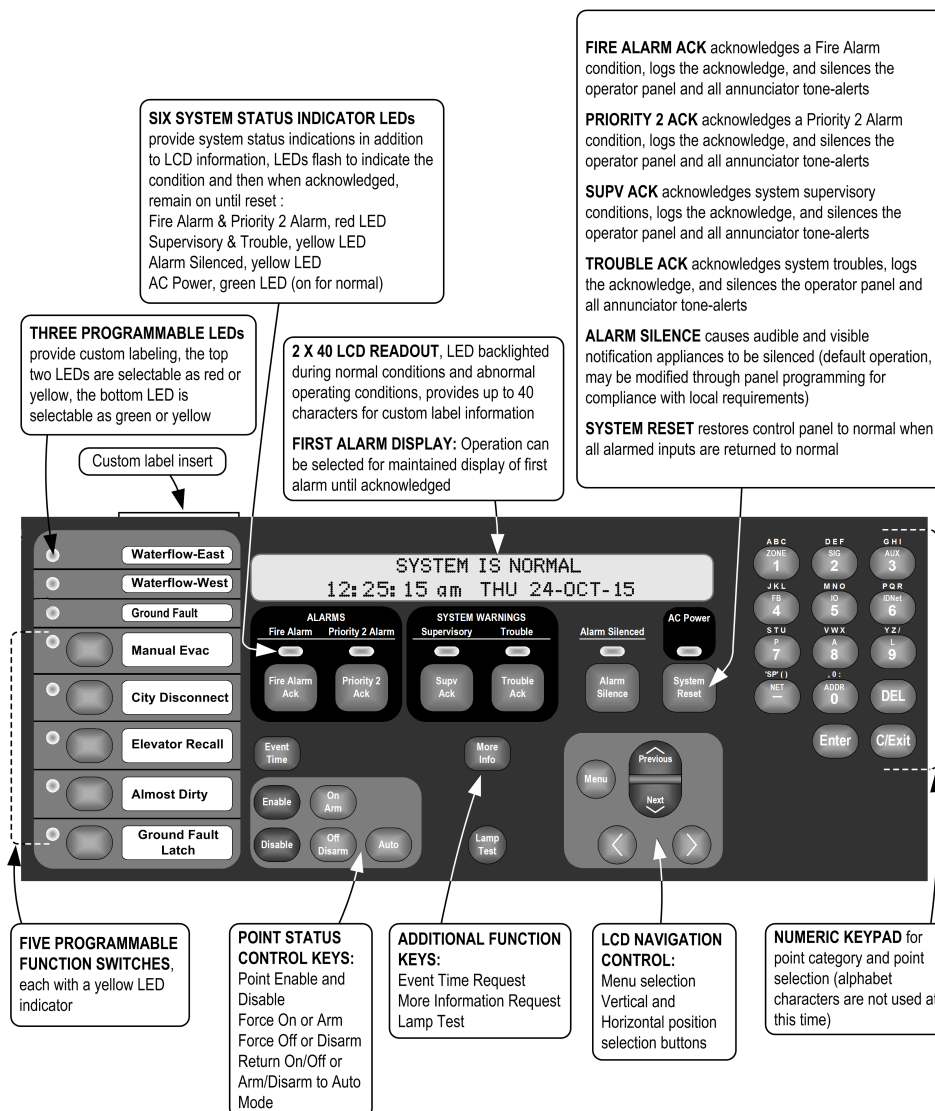
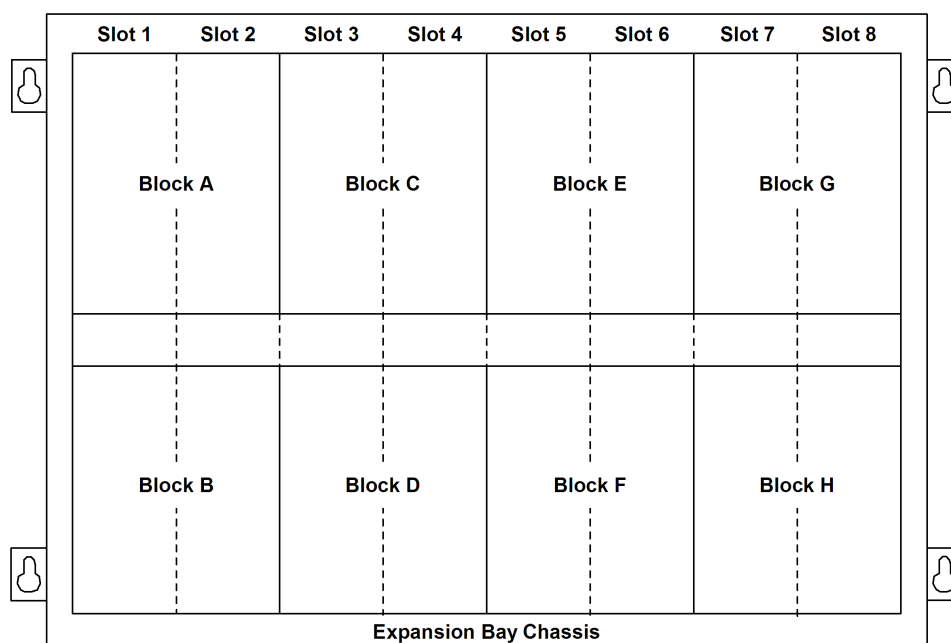


Figure 13: Operator Interface

Expansion Bay Module Loading Reference



Size Definitions: Block = 4 in. W x 5 in. H (102 mm x 127 mm) card area

Slot = 2 in. W x 8 in. H (51 mm x 203 mm) motherboard with daughter card

Table 6: Expansion bay loading reference

Description		Mounting
IDNet 2, IDNet 2+2 Modules		1 Block
Four 2 A Relays	NON Power-limited	1 Block
Four 10 A Relays		4 in., 2 Slots
Eight 3 A Relays		1 Block
VESDA Interface		2 in., 1 Slot
Class B IDC		2 in., 1 Slot
Class A IDC		2 in., 1 Slot
MAPNET II Module		4 in., 2 Slots
MAPNET II/IDNet Isolator		2 in., 1 Slot
NAC Card		1 Block
IDNAC Card		2 Blocks (on ES Power Supply only)
ES-PS		Blocks G & H ONLY
ES-PS Configured as backup		Blocks E & F ONLY
ES-XPS		2 Blocks

Mounting and Master Controller Bay Module Reference

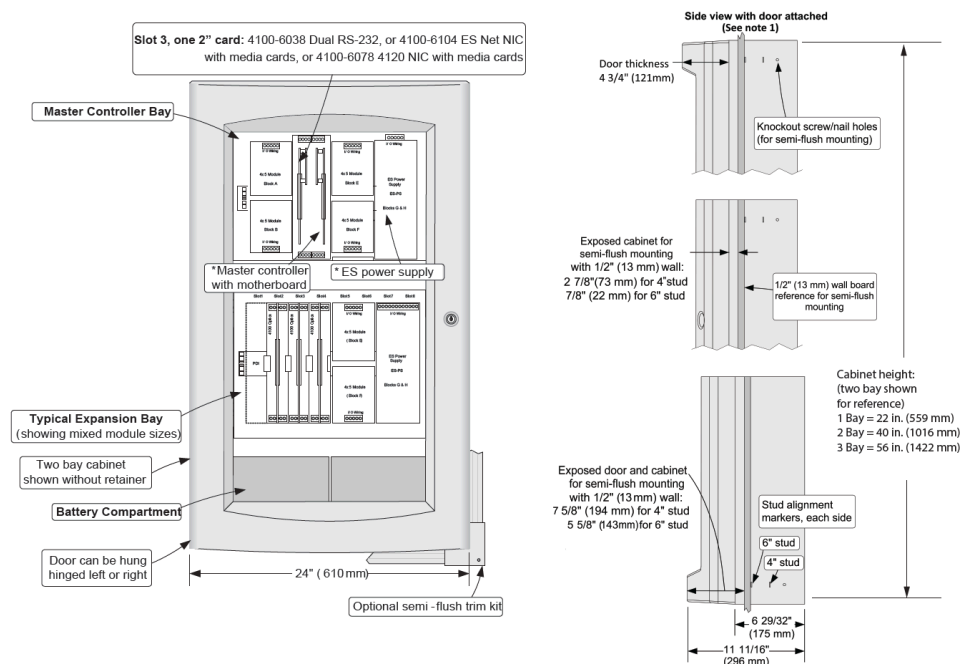


Figure 14: Mounting and CPU Bay Module Reference

Note:

1. Side View dimensions are shown with minimal cabinet and door protrusion from the exterior wall. For 6 in. stud construction with minimum protrusion shown, the door will open 90 degrees. To allow the door to open 180 degrees, the exposed cabinet dimension from the exterior wall must be a minimum of 3 in. (76 mm) for both 4 in. and 6 in. stud construction.
2. Asterisks (*) in Figure 14 indicate supplied modules.
3. A system ground must be provided for earth detection and transient protection devices. This connection shall be made to an approved, dedicated earth connection per NFPA 70, article 250, and NFPA 780.

General Specifications

Table 7: ES Power Supply Specifications (ES-PS and ES-XPS)

Specifications	Rating
AC Input Power	120 to 240 VAC
120 VAC	3.72 A
220 to 240 VAC	1.82 A
Total DC Output Power Capacity	
Without Fan	9.5 A
With 4100-5131 Fan and 4100-5451 IDNAC Module(s)	9.7 A
With 4100-5131 Fan (without 4100-5451 IDNAC Module)	12.7 A
With Regulated 24V Appliance Loads (with or without 4100-5131 Fan)	5.0 A
Special Application Appliance Loads: supports full total DC output power capacity ratings above	Simplex horns, strobes, and combination horn/strobes and speaker/strobes (contact your Simplex product representative for compatible appliances)
Regulated 24V Appliances: reduces total DC output power capacity to 5.0 A	Power for other UL listed appliances; use associated external synchronization modules where required
Auxiliary Power Tap	2 A maximum (taken from total output power capacity)
NACs Programmed for Auxiliary Power	3 A maximum per NAC, 5 A maximum total (taken from total output power capacity)
Battery Charger (ES-PS only)	Sealed Lead-Acid Batteries
Battery Ah Capacity	UL/ULC listed for battery charging of up to 110 Ah (batteries larger than 50 Ah require a remote battery cabinet)
Charger characteristics and performance	Temperature compensated, dual rate, recharges depleted batteries within 48 hours
Environmental	
Operating Temperature	32°F to 120°F (0°C to 49°C)
Operating Humidity	Up to 93% RH, non-condensing @ 90°F (32°C) maximum
Option Card Mounting	2 vertical blocks are available fore compatible modules; refer to 579-1288 installation instructions for additional details

Note:

- Battery charger is only available on the ES-PS power supply.
- When an ES-PS is used to power Flex-35 or Flex-50 Amplifiers the ES-PS battery charger is not available.

Master Controller Selection Information

Note for Table 8 and Table 9

- Supervisory and alarm currents are without IDNet devices. Add IDNet device currents separately.

Table 8: 4100ES Master Controller Selection

Model	Description	Includes	Listings	Supv.	Alarm
4100-9701	ES-PS Master Controller with 2x40 Display - English	Master Controller – English, 2x40 Display, CPU Card, IDNet 2 Card supports up to 250 addressable/analog points, ES Power Supply (120 V to 240 V 50/60 Hz, 24 V Aux. Relay, 24 V Aux. Power Tap/Simple NAC, 110 Ah Battery Charger) and external RUI+ (isolated or un-isolated) communications interface.	UL/ULC	277 mA (See note)	321 mA (See note)
4100-9702	ES-PS Master Controller with 2x40 Display - Canadian French	Same as 4100-9701 above except with Canadian French user interface.	ULC		
4100-9706	ES-PS Master Controller with ES Touch Screen Display	Same as 4100-9701 above except with Color ES Touch Screen Display user interface. For dual language support, desired language is switch selectable.	UL/ULC, CSFM	362 mA (See note)	441 mA (See note)
4100-9709	ES-PS Master Controller without Display - English	Same as 4100-9701 above except with no 2x40 Display or user interface.	UL/ULC	277 mA (See note)	321 mA (See note)

Note:

- The Master Controller current draw specifications do not include IDNet, NAC, or IDNAC current draws. These must be added separately as required.
- International orders may substitute MX Loop Module (4100-3120) in place of IDNet 2 Module (4100-3117). Refer to data sheet S4100-0059 for more details. The 4100-3120 provides the same module and specifications as the 4100-6311 but is dedicated as a Master Controller feature selection.
- At the time of publication English and Canadian French languages are available for ES Touch Screen Display models. Contact your local Simplex product supplier for the latest status and availability for other languages.

Table 9: 4100ES Master Controller Upgrades for Existing 4100 Series Fire Alarm Control Panels

Model	Panel Type	Includes
4100-7150	1000 pt 4100 (4100+)	New Master Controller CPU card, 4100ES door assembly with 2 x 40 LCD operator interface, and Ethernet connection
4100-7152	512 pt 4100	Same as 4100-7150 plus a Universal Power Supply
4100-7158	4100U or 1000 pt 4100 (4100+) previously upgraded to 4100U	New Master Controller CPU card with Ethernet Connection Upgrade Kit (door assembly with user interface not included) for: 4100U with or without operator interface, or 4100+ and operator interface, or an existing 4100 (512 pt) or 4100+ (1000 pt) panel that was previously upgraded to a 4100U Master Controller and operator interface
4100-7162	1000 pt 4100 (4100+)	New Master Controller CPU card, 4100ES door assembly with Color ES Touch Screen Display user interface and Ethernet connection for 4100+ cabinet (requires 4100ES Version 6.01 or higher)
4100-7163	4100+ Cabinet upgraded with New Master Controller CPU card	4100ES door assembly with Color ES Touch Screen Display user interface and Ethernet connection for 4100+ cabinet previously upgraded with New Master Controller CPU card (requires 4100ES Version 6.01 or higher)
4100-7164	2000 pt 4100 (4100U)	New Master Controller CPU card, 4100ES door assembly with Color ES Touch Screen Display user interface and Ethernet connection for 4100U cabinet (requires 4100ES Version 6.01 or higher)

Table 10: ES Touch Screen Display User Interface Upgrade Kit

Model	Panel type	Description
4100-7165	4100ES or 4010ES	New ES Touch Screen Display User Interface for upgrading an existing 4100ES 2x40 LCD or InfoAlarm User Interface, or for upgrading an existing 4010ES InfoAlarm User Interface to a new ES Touch Screen Display User Interface

Table 11: Master Controller Accessories

Model	Description
4100-2300	Expansion Bay Assembly; order for each required expansion bay (not required for 4100-9121)
4100-2303	Legacy Module Stabilizer Bracket, used when expansion bays have legacy slot style modules
4100-2301	Expansion Bay Upgrade Kit for mounting 4100ES style (4 in. x 5 in. modules) in existing 4100 style panels; Note: When using this kit to upgrade a 4100+ transponder, a 4100-0620 Transponder Interface Card (TIC) is also required for communications to the 4100ES module

Table 12: Master Controller Upgrades for Existing 4020 Series Fire Alarm Control Panel

Model	Description
4100-9833	4020 Master Controller Upgrade to 4100ES; Includes New Master Controller with 2 x 40 LCD & operator interface assembly, 8 VDC Converter and RUI+ (isolated or un-isolated) Interface in a single bay cabinet with locking glass door and retainer; mounts as an adjunct panel close-nipped to existing 4020 cabinet; also includes 8 VDC box-to-box power and communications harness and solid filler panel for the existing 4020 Master Controller bay

Module Selection Information

Current Calculation Notes

To determine total supervisory current, add currents of modules in panel to base system value and all external loads powered by panel power supplies.

To determine total alarm current, add currents of modules in panel to base system alarm current and add all panel NAC loads and all external loads powered from panel power supplies.

Table 13: Communication Modules

Model	Description	Size	Supv.	Alarm
4100-1291	Un-isolated remote unit interface module (RUI); up to three maximum per control panel	1 Slot	85 mA	85 mA
4100-6031	Select one per ES Power Supply (non power-limited) City Circuit, with disconnect switches	1 Block	20 mA	36 mA
4100-6032	City Circuit, without disconnect switches		20 mA	36 mA
4100-6033	Alarm Relay, three Form C relays, 2 A @ 32 VDC		15 mA	37 mA
4100-6038	Dual Port RS-232 with 2120 interface (slot module)	1 Slot	132 mA	132 mA
4100-6046	Dual Port RS-232 standard interface (4 in. x 5 in. module)	1 Block	60 mA	60 mA
4100-6048	VESDA Aspiration System Interface	1 Slot	132 mA	132 mA
4100-6080	DACT, Point or Event Reporting; one shipped unless 4100-7908 is selected; two max. per system; includes two 2080-9047 cables, 14 ft (4.3 m) long, RJ45 plug and spade lugs	Side Mt.	30 mA	40 mA

Table 14: Connected Services Gateway with IP communicator

Model	Description	Size
4100-2504	Connected Services Gateway with IP communicator, side mount	1 slot
4100-2506	Connected Services Gateway with IP communicator, vertical mount	2 blocks

Table 15: ES Power Supplies

Model	Voltage	Description	Includes	Provides Power to Bay	Size	Supv.	Alarm
4100-5401	120 to 240 V 50/60 Hz	ES-PS	24 V Aux. Relay, 24 V Aux. Power 2 A Tap/ Simple NAC, 110 Ah Battery Charger, 2 PDI Blocks for compatible option cards.	Yes	2 Blocks	68 mA	77 mA
4100-5402	120 to 240 V 50/60 Hz	ES-XPS	Same as ES-PS above, except without battery charger	No			

Table 16: Power supply accessories

Model	Description	Size	Current
4100-5152	12 VDC Power Option, 2 A maximum	1 Block	1.5 A maximum
4100-0156	8 VDC Converter, required for multiple Physical Bridge Modules, 3 A maximum	1 Block	included with loads
4100-5130	Voltage Regulator Module, 22.8 to 26.4 VDC (25 VDC nominal); isolated and resettable output; includes earth detection circuit and trouble relay for status monitoring.	1 Block	3 A maximum with 2.5 A load, 4.9 A maximum with 4 A load
4100-5131	ES-PS Fan Module, allows more than one power supply to be installed in a single bay and may increase total DC output power capacity per power supply. See Table 7 for specifications.	N/A	0 mA Supv. 200 mA Alarm
4100-0636	Box Interconnection Harness Kit (non-audio); order one for each close-nipped cabinet		
4100-0638	4100 Slot Module Additional 24 VDC Harness; needed when 4100 Slot module requirements exceed 2 A from ES-PS		
4100-5403	Harness for ES-PS Backup Power Supply		
4100-0644	120 VAC PDM Harness	One PDM harness is required per power supply, select as required for appropriate input voltage	
4100-0645	220 VAC PDM Harness		
4100-0646	230 VAC PDM Harness		
4100-0647	240 VAC PDM Harness		

Table 17: Conventional and Addressable Notification Appliance Modules

Model	Description	Outputs	Size	Max Load - Special Application*		Max Load - Regulated 24 V		Current Draw	
				On ES-PS / ES-XPS	In Bay	On ES-PS / ES-XPS	In Bay	Supv.	Alarm
4100-5450**	Conventional NAC Module	Three 3 A NACs	1 Block	3.0 A / NAC 9.0 A / Card	3.0 A / NAC 6.0 A / Card	2.0 A / NAC 5.0 A / Card	2.0 A / NAC 2.0 A / Card	66 mA	66 mA
4100-5451**	IDNAC Addressable Notification SLC Module	Three 3 A SLCs	2 Blocks (on ES Power Supply only)	3.0 A / NAC 9.0 A / Card	N/A	N/A		124 mA	230 mA

*Special Application specifications apply to both Special Application and Steady Aux Power loads during alarm operation. Available power during non-alarm operation is 5.0 A maximum.

**The 4100-5450 and 4100-5451 can only be powered from a 4100-5401 and 4100-5402 power supply.

Table 18: Dual Class A Isolator for IDNAC

Model	Description	Size	Supv.	Alarm
4100-6103	Dual Class A IDNAC Isolator (DCAI) , converts a single Class B IDNAC SLC input to two Class A SLC outputs; provides short circuit isolation between each Class A output circuit; connect up to two DCAI Modules per IDNAC SLC input up to a maximum of 6 DCAI Modules per IDNAC SLC; each isolated output SLC used requires one IDNAC address; the total current remains controlled by the Class B input source SLC at 3 A maximum; each isolated loop supports up to 30 device addresses Note: Up to 30 additional device addresses may be installed between each 4905-9929 TrueAlert Addressable Isolator+ Module, not to exceed the maximum address and unit loading specifications for the IDNAC channel	1 Block	8.3 mA	18.5 mA

Table 19: 8-Point Zone/Relay Card

Model	Description	Size	Supv.	Alarm
4100-5013	8 point zone/relay 4 in. x 5 in. flat module. Supports eight Class B or four Class A IDCs. Mounts in any open block in a master controller or expansion bay. Alarm current shown is for eight Class B IDCs using 3.3K end-of-line-resistors with four in alarm and four in standby. Standby current shown is for all eight IDCs in standby. Refer to 579-1236 Zone/Relay Module Installation Instructions for additional information.	1 Block	83 mA	295 mA
4100-6305	25 V regulator harness for 8 point zone/relay module. One required for each 8 point zone/relay module to be powered by the 4100-5130 25 V regulator module. A maximum of five 8 point zone/relay modules may be powered from the 4100-5130 per bay.	N/A	N/A	N/A

Note: Modules in Table 19 requires 4100ES Version 3.06 or later.

Table 20: IDNet Addressable Interface Modules

Model	Description	Devices	Standby	Alarm
4100-3109	IDNet 2 Module, 250 point capacity; electrically isolated output with two short circuit isolating Class B or Class A output loops, 1 block; standard on ES-PS with IDNet 2 Module; alarm currents for 50 and above devices includes 20 device LEDs in alarm	none	50 mA	60 mA
4100-3117		50	90 mA	150 mA
		125	150 mA	225 mA
		250	250 mA	350 mA
4100-3110	IDNet 2+2 Module, 250 point capacity; electrically isolated output with four short circuit isolating Class B or Class A output loops, one block; alarm currents for 50 and above devices includes 20 device LEDs in alarm	none	50 mA	60 mA
		50	90 mA	150 mA
		125	150 mA	225 mA
		250	250 mA	350 mA
4100-3111	IDNet Short Circuit Isolating Loop Output Module; mount up to two on a 4100-3109 or 4100-3117 module; this option is for aftermarket field installation only. Total initiating SLCs per CPU, including VESDA Interface is 30.			

Note: Each IDNet 2 and IDNet 2+2 Short Circuit Isolating Loop Output can be individually controlled for system diagnostics and can be assigned a public point for Fire Alarm Network

Table 21: Current draw for each IDNet device

Condition	Current
Standby	0.8 mA
Alarm, with LED off	1.0 mA
Alarm, with LED on	3.0 mA

Note: A maximum of 20 devices with LED on is supported for each channel. Additional device LEDs do not turn on.

Table 22: MAPNET Addressable Interface Modules

Model	Description	Supv.	Alarm
4100-3102	MAPNET II Module, 127 point capacity, add devices separately; Module size = 2 Slots; Loading per MAPNET II device = 1.7 mA	Module without devices	255 mA
		Fully loaded module, total	471 mA
4100-3103	Isolator Module for MAPNET II communications; converts a single connected SLC into four isolated outputs selectable as Class A or Class B; up to two Isolator Modules can be connected to one SLC; Module size = 1 Slot;	50 mA	50 mA

Note: Compatible with MAPNET II Remote Isolators only

Table 23: Relay Modules; Non power-limited (for mounting in expansion bay only)

Model	Description	Resistive Ratings	Inductive Ratings	Size	Supv.	Alarm
4100-3202	4 DPDT w/feedback	10 A 250 VAC	10 A 250 VAC	2 Slots	15 mA	175 mA
4100-3204	4 DPDT w/feedback	2 A 30 VDC/VAC	1/2 A 30 VDC/120 VAC	1 Block	15 mA	60 mA
4100-3206	8 SPDT	3 A 30 VDC/120 VAC	1-1/2 A 30 VDC/120 VAC	1 Block	15 mA	190 mA

Table 24: Miscellaneous Accessories

Model	Description
4100-1279	Single blank 2 in. display cover; 4100-2302 provides a single plate for a full bay
4100-9856 *	4100ES Canadian French Appliqué Kit; Simplex, 4100ES, Contrôle Incendie
4100-9857 *	4100ES English Appliqué Kit; Simplex, 4100ES, Fire Control
4100-9858 *	4100ES InfoAlarm Remote Display English Appliqué Kit; Simplex, Operator Interface, 4100ES
4100-9859 *	4100ES InfoAlarm Remote Display Canadian French Appliqué Kit; Simplex, Interface de l'opérateur, 4100ES
4100-9868	Special Purpose Appliqué Kit: Simplex, Elevator Recall Control and Supervisory Control Unit, 4100ES
4100-9869	Special Purpose Appliqué Kit: Simplex, Sprinkler Waterflow and Supervisory Station, 4100ES
4100-9835	Termination and Address Label Kit (for module marking); provides additional labels for field installed modules

Table 24: Miscellaneous Accessories

Model	Description
4100-6034	Tamper Switch, one per cabinet assembly if required; monitors solid door for panels with solid door; monitors the internal retainer panel for panels with glass door (not the glass door); has a built-in addressable IDNet IAM
2081-9031	Series resistor for WSO, IDCs (N.O. water flow and tamper on same circuit, wires after water flow and before tamper) 470 Ω , 1 W, encapsulated, two 18 AWG leads (0.82 mm ²), 2 1/2 in. L x 1 3/8 in. W x 1 in. H (64 mm x 35 mm x 25 mm)

Note: * 4100ES English Appliqués are included with 4100ES Upgrade and Retrofit Kits for mounting 4100ES in 4100, 2120, 2001, and Simplex back boxes so that upgrades can be easily identified as 4100ES. 4100ES Appliqué Kits are available for applications such as to update Remote InfoAlarm Displays connected to a panel that was upgraded to 4100ES or for an existing 4100U when the New Master Controller is upgraded to 4100ES and only a software upgrade is required. When required, French appliqués are ordered separately.

Network Interface and Network Media Card Product Selection

4100ES fire alarm control units are compatible with Simplex ES Net network or 4120 network fire alarm products.

- Refer to datasheet **S4100-0076** for additional information on compatible ES Net fire alarm products.
- Refer to datasheet **S4100-0056** for additional information on compatible 4120 fire alarm products.

Additional 4100ES and Network Product Reference

Table 25: Additional 4100ES and Network Product Reference

Subject	Data Sheet
Serial DACT (SDACT) for 4100ES, 4010ES, 4007ES	S2080-0009
Connected Services Gateway - Central Station Communication and SafeLINC Cloud Services	S2080-0091
Battery and Battery Cabinet Reference for 4100ES	S2081-0006
110 Ah Batteries and Cabinets for 4100ES	S2081-0012
4009 IDNet NAC Extender	S4009-0002
4009 IDNAC Repeater	S4009-0004
External 110 Ah Battery Charger for 4100ES, 4010ES	S4081-0002
Graphic I/O Modules for 4100ES, 4010ES, 4007ES	S4100-0005
Interface to VESDA Air Aspiration Detection Systems	S4100-0026
4100ES LED/Switch Modules & Printer	S4100-0032
Master Clock Interface	S4100-0033
4100ES Enclosures	S4100-0037
4100ES Extinguishing Release Applications	S4100-0040
TFX Interface Module	S4100-0042
2120 BMUX Module	S4100-0048
Multiple Signal Fiber Optic Modems for 4120 Networks	S4100-0049
BACpac Ethernet Module	S4100-0051
4120 Network Products and Specifications	S4100-0056
Building Network Interface Card (BNIC)	S4100-0061
SafeLINC Internet Interface	S4100-0062
Emergency Voice/Alarm Communications Equipment with ES-PS Power Supplies	S4100-1034
MINIPLEX Transponders with ES-PS Power Supplies	S4100-1035
NDU with ES-PS Power Supplies for 4120 Network	S4100-1036
4100ES Remote Annunciator Panels with ES-PS Power Supplies	S4100-1039
Remote ES Touch Screen Displays for 4100ES and 4010ES Panels	S4100-1070
ES Net Network Products and Specifications	S4100-1076
NDU with ES-PS Power Supplies for ES Net	S4100-1077
TrueSite Workstation	S4190-0016
TrueSite Incident Commander	S4190-0020
Network System Integrator (NSI) for ES Net and 4120 Networks	S4190-0026
24-Pin Dot Matrix Fire Alarm System Remote Printer	S4190-0027
SCU/RCU Annunciators for 4007ES, 4010ES, 4100ES	S4602-0001
LCD Annunciator for 4100ES	S4603-0001

Features

Interface modules for LED and switch control of custom graphic annunciator panels including:

- **4100-7401**, 24 Point I/O Graphic Modules with points selectable as either switch inputs or LED outputs
- **4100-7402**, 64 Switch and 64 LED Driver Module with 32 on-board LED drivers
- **4100-7403**, 32 Point LED Driver Modules
- **4100-7404**, 32 Point LED Switch Input Modules

Module compatibility:

- For use with Simplex 4007ES, 4010ES, 4100ES, and 4100U series fire alarm control units
- Also compatible with Simplex legacy panel model series 4100, 4120, and 4020 (see 4020 compatibility note in [Graphics Control Module Descriptions](#))

Multiple mounting options are available:

- Semi-flush or surface mount cabinets in beige or red, with or without a glass door
- Interface modules can be mounted in the same cabinet as the graphic panel or mounted nearby
- Plate-mounted for mounting in cabinet by others
- Interface modules are UL listed for use in agency listed custom graphic annunciator panels

Operation and status supervision:

- Supervised remote unit interface communications (RUI) require a single, twisted, wire pair (some applications may require shields) to the fire alarm control unit (power is supplied via a second wire pair)
- Multiple annunciator module types can be connected to same communications wiring
- Convenient wiring connections are via pluggable terminal blocks

UL listed to Standard 864 for:

- Fire Detection and Control (UOJZ)
- Smoke Control Service (UUKL)

Introduction

Annunciator Control.

These remote annunciator graphic control modules complement Simplex 4007ES, 4010ES, 4100ES, and 4100U (and other installed legacy panels) by providing LED/lamp/relay drivers and switch inputs to allow custom graphic displays to be designed for specific facility requirements, such as for smoke control (UUKL) systems. Wiring is minimized by signaling line circuit (SLC) communications that also provides supervision.

In the event of communications loss, a trouble will be displayed at the fire alarm control panel and can also be identified at the remote annunciator if desired.

Packaging Flexibility.

For packaging flexibility, these modules are plate-mounted, allowing compatibility with vended graphics assemblies. These modules also provide convenient terminal block wiring connections and use compact ribbon cable connectors for multiple module interconnection.

System Accessories, LED Annunciators

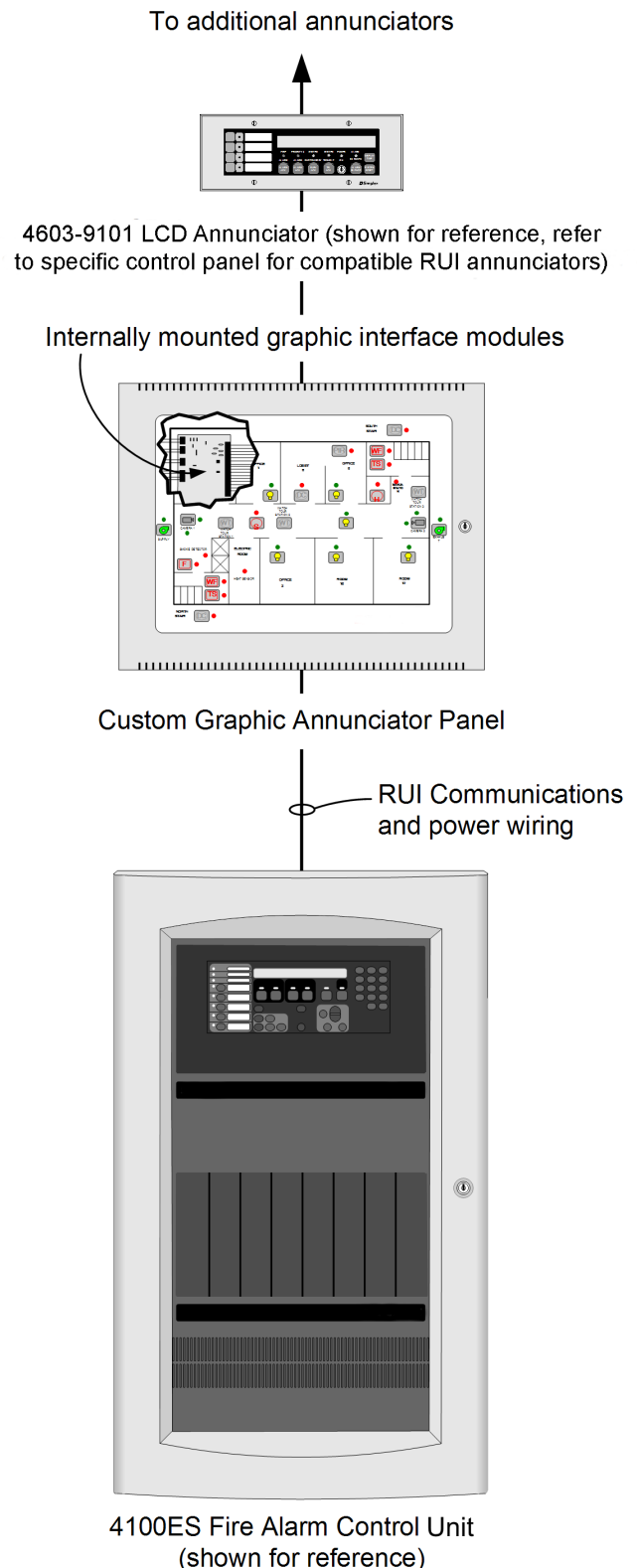


Figure 1: 4100ES Fire Alarm Control Unit Connected to a Remote Graphic Annunciator and a Remote LCD Annunciator

Graphics Control Module Descriptions

4100-7401, 24 Point I/O Graphic Module:

- 24 Points, selectable as either a switch input or a lamp/relay driver output
- Switch monitoring includes: unsupervised, supervision for opens, supervision for opens or shorts, and supervised monitoring of HOA (hand/off/auto) switches
- Switches can be momentary or maintained, 2 position or 3 position, maximum distance is 2500 ft (762 m), or 65 Ω from the module
- Each LED/lamp/relay driver is rated at 150 mA @ 24 VDC per point, inrush is current limited for compatibility with incandescent bulbs (relays need to be diode suppressed at the relay coil) maximum distance is 600 ft (183 m), or 2 Ω from the module
- LED/lamp/relay driver outputs are supervised for open circuits and can be set as on continuous, or pulsed at a slow or fast rate
- Additional inputs are included for communicating a remote power supply trouble and for lamp testing, the module can also be configured to provide local indication of communications loss

Note: 4100-7401 is not compatible with installed Simplex 4020 Series fire alarm control panels

4100-7402, 64/64 LED/Switch Controller Module:

- Support for up to 64 switches *and* 64 LEDs (switches are unsupervised)
- Includes 32 LED driver outputs on-board for direct LED connection
- Full capacity is achieved by using a 4100-7403, 32 Point LED Driver Module, and two 4100-7404, 32 Point Switch Modules
- Multiplexed LED drivers provide 40 mA peak, 5 mA average, 60 Hz rate, 12.5% duty cycle for direct LED drive and can be steady on, or slow or fast pulse
- LEDs are supervised for open circuits, LED and switch module connections are supervised
- LEDs or switches can be up to 25 ft (7.6 m) or 3 Ω from module

4100-7403, 32 Point LED Driver Module:

- Provides an additional 32 LED drivers for use with the 4100-7402 Controller
- LED output is the same as for the 4100-7402

4100-7404, 32 Point Switch Module:

- Monitors momentary or maintained 2- or 3- position switches
- Switch position sampling is multiplexed at a 60 Hz rate, 40 mA maximum, 1 mA average

Module Mounting Reference

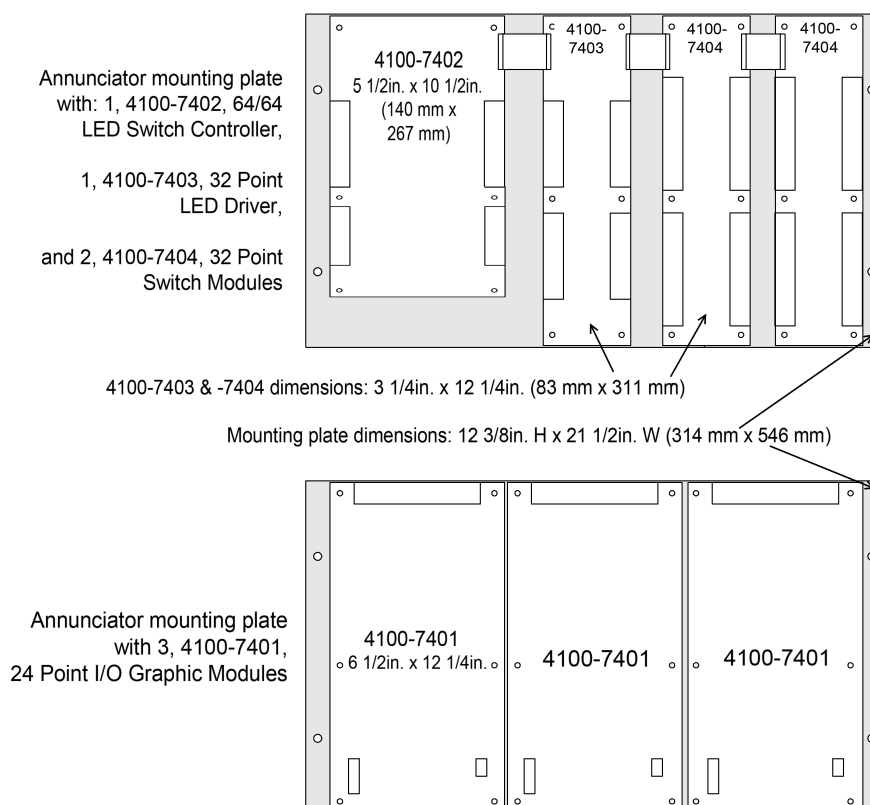


Figure 2: Module mounting reference

Product Selection

Table 1: System Type (select one)

Model	Description
4100-8401	Cabinet mounted graphic modules
4100-8402	Graphic modules only, plate mounted
4100-8904	Aftermarket addition, modules only

Table 2: Graphic Modules*

Model	Description	Mounting Information
4100-7401	24 Point I/O Graphic Module	Mounting is on dedicated mounting plates, up to 3 per plate
4100-7402	64/64 LED Switch Controller	Mounting Rules: One 4100-7402, 64/64 LED Switch Controller mounted per plate; the same plate can mount one 4100-7403, 32 Point LED Driver Module, and two 4100-7404, 32 Point Switch Input Modules Each mounting plate requires 2 units of space; 1 plate per 2-unit cabinet, 2 plates per 4-unit cabinet, 3 plates per 6-unit cabinet
4100-7403	32 Point LED Driver Module	
4100-7404	32 Point Switch Input Module	

* Select as required, refer to [Module Mounting Reference](#) for panel mounting dimensions.

These 4100 series graphic modules are available internally mounted and UL listed in custom graphic annunciator panels and custom graphic smoke control annunciators from Space Age Electronics Inc., website: www.1sae.com

Table 3: Package Size, Finish and Trim Options (select as required if 4100-8401)

Model	Description
4100-2401	2-Unit
4100-2402	4-Unit
4100-2403	6-Unit
4100-2404	2-Unit
4100-2405	4-Unit
4100-2406	6-Unit
4100-2201	Red finish option
2975-9801	Semi-flush trim option, beige, 1-7/16" wide (37 mm)
2975-9802	Semi-flush trim option, red, 1-7/16" wide (37 mm)

Table 4: Aftermarket Solid Door (for cabinet-only models)

Model	Description
4100-8911	Aftermarket addition designation, use if solid door is required, order with cabinet-only models
4100-2031	2-unit
4100-2032	4-unit
4100-2033	6-unit

Simplex Cabinet Dimension Reference

Table 5: Cabinet Dimensions*

Size	Height	Cabinet Width	Cabinet Depth	Door Width
2-Unit	20-3/4" (527 mm)	25-3/4" (654 mm)	4-1/4" (108 mm)	26-9/16" (675 mm)
4-Unit	36-1/4" (921 mm)			
6-Unit	52-1/8" (1324 mm)			

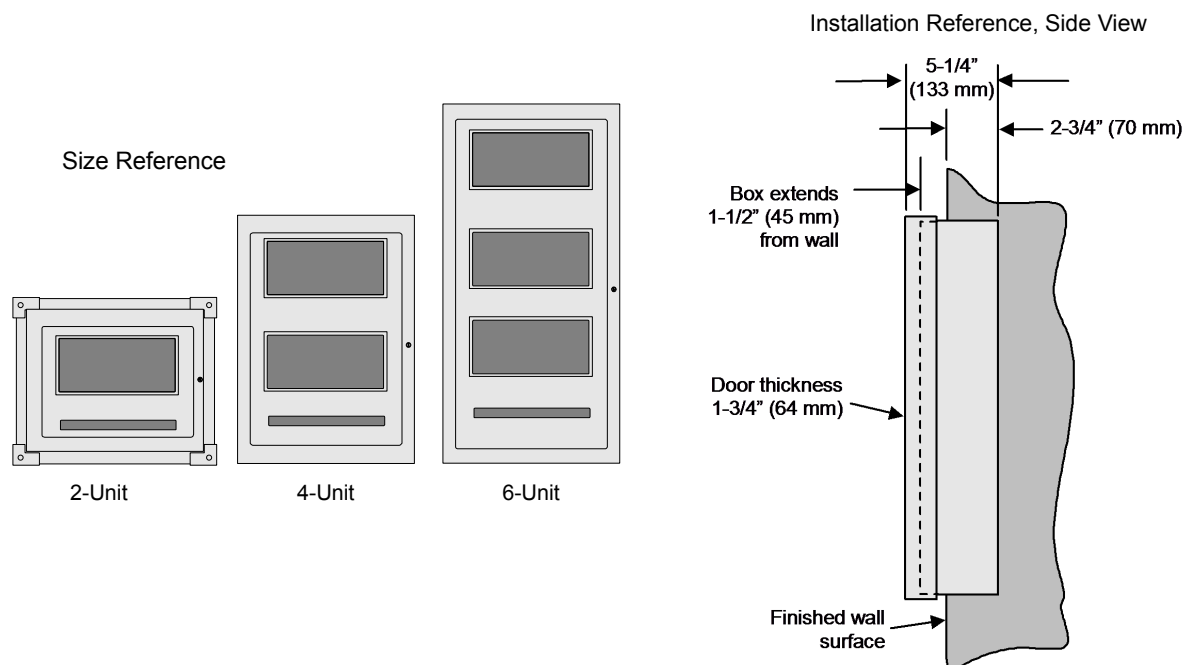
* See [Simplex Annunciator Cabinet Reference](#) for additional information

Specifications

Table 6: Annunciator specifications

Specification			Rating	
Voltage			18.9 to 32 VDC; 24 VDC nominal from fire alarm control unit	
Current	4100-7401, 24 Point I/O Module	Standby and Alarm = 78 mA + all connected LED/lamp/relay currents and all switch currents		
		Switch current	Unsupervised mode = 12 mA when closed, per switch	
			Supervised for open circuit mode = 5 mA open, 12 mA closed, per switch	
			Supervised for open or short mode = 4 mA open, 8 mA closed, per switch	
	HOA mode = 12 mA "on", 8 mA "off", 4.5 mA center position			
	4100-7402, 64/64 LED Switch Controller	Standby = 67 mA + all switch loads		
Alarm = 285 mA with 64 total LEDs on + all switch loads				
Switch current = 1 mA average, "up" position, 0.5 mA average, "down" position				
Communications			RUI external annunciator communications line SLC	
Capacity Per RUI Output	4100ES & 4100U		Up to 31 total remote RUI devices	Refer to individual control panel and annunciator data sheets for additional RUI compatibility information
	4010ES		Up to 20 internal and external card addresses	
	4007ES		Up to 10 remote RUI devices	
Wiring Requirements		Data	Single, twisted, wire pair (some applications may require shields) 18 AWG (0.82 mm ²)	Wiring connections are pluggable terminal blocks
		Power	18 to 12 AWG (0.82 mm ² to 3.31 mm ²) wires for 24 VDC system power	
		Input/Outputs	18 to 14 AWG (0.82 mm ² to 2.08 mm ²)	
		Earth	A dedicated earth ground connection to the electrical box is required for proper ESD and EMI protection; wire in accordance with NFPA 72 and National Electrical Code (NEC)	
Operating Temperature			32° F to 120° F (0° C to 49° C)	
Operating Humidity			Up to 93% RH, non-condensing @ 90° F (32° C) maximum	
Additional Information			Refer to Field Wiring Diagram 841-802	

Simplex Annunciator Cabinet Reference


Figure 3: Cabinet reference

Note: These drawings depict cabinets with glass doors and retainer panels. The 2-Unit cabinet is shown with semi-flush trim. See [Simplex Cabinet Dimension Reference](#) for cabinet dimensions.

Features

Emergency voice/alarm communications provide:

- Alarm/evacuation signal generation with multiple built-in tones
- Standard or customized digital message storage and message generation
- Automatic or manual operation
- Mass Notification operation

Multiple channels are available:

- Analog audio systems provide dual channel operation
- Digital audio systems provide up to eight channels over a single wire pair

Communications features:

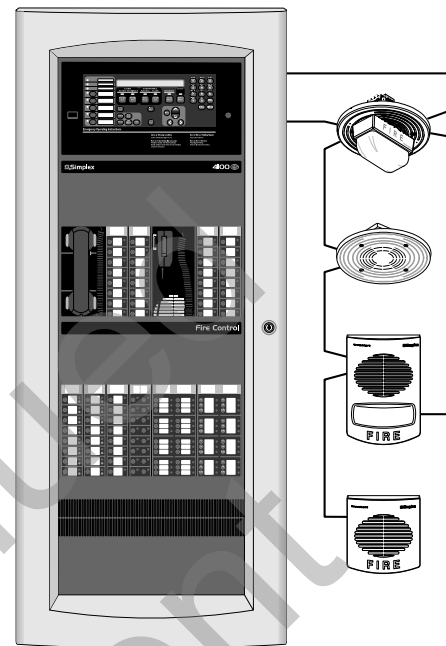
- Up to five supervised remote microphone inputs
- Spoken voice coding from the digital message player
- Multiple digitally recorded human voice messages
- Spoken WALKTEST system testing
- Separate evacuation, drill, and optional "All Clear" voice messages and tones
- Ready-to-talk microphone indicator on front panel audio control module
- Local panel speaker for tone/message broadcast verification
- MINIPLEX Voice Transponders are available for distributed audio

Amplifiers are available with analog or digital input:

- Flex-35 (35 W) and Flex-50 (50 W) amplifiers provide a dual channel design with configurable operation modes
- 100 W primary and backup, single channel amplifiers include a built-in power supply
- Amplifiers are available for 25 VRMS or 70.7 VRMS output with on-board, power-limited NACs (only one voltage choice per system)
- Built-in Temporal Pattern horn tone provides default backup signal operation
- Optional modules provide power-limited NAC expansion, convert Class B NACs to Class A operation, and provide Constant Supervision Operation for Non-Alarm Audio (NAA) applications (NAA requires additional hardware, and software revision 11.08 or higher)

Firefighter telephone systems:

- Master telephone can simultaneously talk with up to 6 remote telephones and can be connected as an audio input for broadcast messages
- Ring signal on remote firefighter telephone indicates that a call request is initiated and a hold signal indicates that a connected line has been deselected
- Telephone circuits are supervised for open and short circuits, too many telephones connected, and the master telephone is supervised for cord integrity
- Degraded mode allows remote telephones to remain connected to each other in the event of a communications loss



4100ES Fire Alarm Control Panel with
Voice and Firefighter Telephone Options

Listed to:

- UL 864, Fire Detection and Control (UOJZ), and Smoke Control Service (UUKL)
- UL 2017, Process Management Equipment (QVAX)
- UL 1076, Proprietary Alarm Units-Burglar (APOU)
- UL 2572, Mass Notification Systems (PGWM)
- ULC S527, Control Units for Fire Alarm Systems

Description

4100ES Audio Systems provide voice communication, alarm tones, and/or digitally prerecorded voice messages to alert occupants of fire or other emergency situations. Evacuation signaling may be automatically generated via alarm initiated event programs or by firefighting personnel using the operator controls.

4100U Series Products Note. The audio system modules and features listed in this data sheet are both compatible with, and listed for use with 4100U series fire alarm control panels. Contact your local Simplex® product supplier for details.

* See page 5 for product that is listed as UL or ULC and additional product listing details. This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7165-0026/251 for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

Audio Controller Module Description

The **Audio Controller Module** provides digitized alarm tones and digitally recorded voice messages and message construction, and manages both microphone inputs and other auxiliary inputs connected to the optional Auxiliary Audio Input Module. Tones and voice messages are digitally recorded and stored in the audio control module's message memory.

Two versions are available: **Analog** and **Digital**. Systems must be either analog or digital, not intermixed. One audio control module controls the entire audio system.

Common audio control board features:

- On-board digital message memory provides up to 2 minutes at normal or 1 minute at high resolution
- Connects to optional 4-input audio input modules (two maximum) for a total of up to 6 microphones and 11 distinct audio inputs
- Memory expansion is available to provide up to 8 minutes or 32 minutes at normal resolution (4 minutes or 16 minutes at high resolution)
- Connections for a Master Microphone and one Remote Microphone, compatible with standard or noise-canceling microphones
- Master telephone to audio interface connection uses the audio bay's Power Distribution Interface Module (PDI)
- Local panel speaker output with on-board volume control
- On-board download port for message loading
- The microphone ready-to-talk LED is located on the front panel audio control module (see p. 4) and requires connection to a 64 LED/64 switch controller
- Audio risers, either digital or analog, may be directly connected to 31 remote nodes; for applications requiring audio risers to more than 31 remote nodes, alternate connection methods are available, contact your Simplex product representative for details

Analog Audio Controller Modules

Analog audio control modules are for systems that require one or two simultaneous channels of audio information per the following feature summary.

- Built-in 10 VRMS riser output eliminates the need for separate riser amplifiers available as Class B or Class A
- Messages can play on one or both risers simultaneously, with the same or a different message
- Analog audio controllers are for connection to analog input audio amplifiers and audio risers only
- On-board status LEDs assist with setup and troubleshooting

Digital Audio Controller Modules

Digital audio control modules are for systems that require more than two simultaneous channels of audio information per the following feature summary.

- Up to 8 channels of information at normal resolution are available (4 channels at high resolution) on one twisted wire pair
- Primary 1 Digital Audio Riser (DAR) output can be either wired Style 4 or Style 7; Primary 2 DAR is an identical, separate output for Style 4 connections, typically to local MINIPLEX voice transponders
- Digital audio controllers are for connection to digital input audio amplifiers and digital audio risers only

Audio Tone List

The **Temporal 3 Pattern** is available for compatible tones (1/2 sec on, 1/2 sec off, 1/2 sec on, 1/2 sec off, 1-1/2 sec off) to indicate evacuation. The following is a list of the standard audio tones.

- **Horn**, continuous 520 Hz tone, primarily used for coded systems or general temporal pattern signaling; 520Hz tone is compliant with NFPA 72 Low Frequency Signal Requirements for Sleeping Areas
- **Chime**, a digitally recorded mechanical chime tone, normally used free-running or for coded operation
- **Bell**, a digitally recorded mechanical bell sound, normally used free-running, for coded systems, or general temporal pattern signaling
- **Fast Whoop**, a quickly ascending tone
- **Slow Whoop**, a slowly ascending tone
- **High/Low**, with high frequency of 750 Hz for 100 ms and low frequency of 500 Hz for 400 ms
- **Beep**, 500 Hz tone of 0.7 s on, 0.7 s off
- **Stutter**, 500 Hz tone with on and off times of 100 ms
- **Wail**, ascends, then descends between 600 to 940 Hz
- **GSA Tone**, continuous 2000 Hz tone

Audio Controller Message Description

Zone Coded Signaling is available using tones or spoken numbers. Spoken coded messages can be used in place of conventional pulse tone coding to eliminate counting and interpretation of the zone coded location. For example, a fire alarm zone such as First Floor East, Smoke Detector Room 23 will be Code 1123.

Two possible transmission schemes are:

1. Conventional Zone Coded Signaling where
T = Tone: T...T...TT...TTT...T...T...TTT...
2. Spoken Coded Signaling:
Code, one..one..two..three; Code, one..one..two..three

The Audio Controller has the ability to precede spoken codes with phrases and alert tones. As an alternative, the previous example could have been preceded with a chime tone. The word "code" could be replaced with the phrase "Doctor Firestone, please dial..."

Preprogrammed Special Messages can be ordered. Up to 32 minutes of special phrases and messages are available to meet specific applications. The standard Evacuation Message is: "Attention... Attention... Attention...An emergency has been reported.... All occupants walk to the nearest stairway exit and walk down to your assigned re-entry floor or main lobby... Do not use the elevator... Walk to the nearest stairway.... Do not use the elevator.... Walk to the nearest stairway."

Custom Message Ordering is summarized below:

Model	Description
4100-8804	Select when Custom Messages are required , choose message types from below as required (minimum quantity of one)
4100-0822	Custom Messages from Tape
4100-0823	Custom Messages from Transcript; NOTE: Send transcript in advance to Applications Engineering to verify phrase quantity
4100-0824	Custom Messages from Archive
	CO Relocation Message; Temporal 4 Pattern horn tone with English male voice instruction; identify as "UCSET1393" when ordering

Audio Amplifiers General Description

4100ES audio amplifiers are available as dual channel models rated for 35 W (Flex-35) or 50 W (Flex-50) and as single channel 100 W models with on-board NACs (notification appliance circuits) for convenient field wiring. Common features are summarized as follows:

- *Analog* input amplifier models are for single or dual channel system operation
- *Digital* input amplifier models are for multi-channel system operation providing up to eight channels over a single twisted wire pair
- Amplifiers are power-limited with models available providing 25 VRMS, or 70.7 VRMS output
- When Non-Alarm Audio (NAA) applications (such as for background music, paging, or for Mass Notification) are required, optional Constant Supervision modules provide continued speaker zone supervision during the page or while background music is playing; due to the NAA supervision requirements, when amplifiers are used for paging or playing background music, output power is derated to 70% of alarm output rating (24.5 W, 35 W, and 70 W); during alarm conditions full amplifier output power is available
- Linear power output stages are traditional Class B designs for low distortion and low EMI
- An on-board 500 Hz temporal pattern horn tone on each amplifier provides a default backup tone
- Supervision actively monitors amplifier gain in real time, comparing output level to input level
- On-board test switches can be activated to test and observe amplifier backup
- On-board overcurrent protection protects against overloads and short circuits
- Each amplifier communicates to the host CPU and allows voltage and current values to be accessed from the fire alarm control panel operator interface

Flex-35 and Flex-50 Amplifiers, General

Flex-35 and Flex-50 amplifiers are a *self-backup dual channel design* that provides a total of 35 W or 50 W of audio power with the following common feature summary:

- Self-backup feature allows NACs connected to a disabled amplifier channel to be routed to the remaining channel with the full 35 W or 50 W providing the single channel as selected by the fire alarm control panel programming; *external backup amplifiers are not required*
- Three standard on-board audio NACs are each rated for 2 A maximum and are capable of being routed to either desired amplifier channel
- Compatible power supplies include the: Expansion Power Supply (XPS), Remote Power Supply (RPS), or System Power Supply (SPS); power supplies with single amplifiers can provide power for other compatible applications within their rated output
- *Digital models* of the Flex-35 and Flex-50 have a digital decoder module that selects one or two of the input channels as desired
- Selectable reduced output levels of -12 dB or -6 dB are available for non-emergency audio output, selectable per channel

Flex-35 Amplifiers

- Each Flex-35 channel is capable of up to 35 W output with a total of 35 W
- Channels can be divided as 0 W and 35 W; 17.5 W and 17.5 W; 10 W and 25 W; or any combination that totals 35 W or less

Flex-50 Amplifiers

- Each Flex-50 channel is capable of up to 50 W output with a total output of 50 W
- Channels can be divided as 0 W and 50 W; 25 W and 25 W; 10 W and 40 W; or any combination that totals 50 W or less

Dual Flex-35 or Flex-50 Connections

- *Two* Flex-35 amplifiers, or *two* Flex-50 amplifiers can connect to a *single* Expansion Power Supply (XPS) in the same audio expansion bay (amplifiers must be the same model number); XPS output is dedicated to amplifier power
- Mounting for dual Flex-35 or Flex-50 amplifiers is Blocks A & B for amplifier 1, Blocks C & D for the XPS, blocks E & F are not used, and Blocks G & H are for amplifier 2 (see page 7 for mounting reference)

100 W Audio Amplifiers

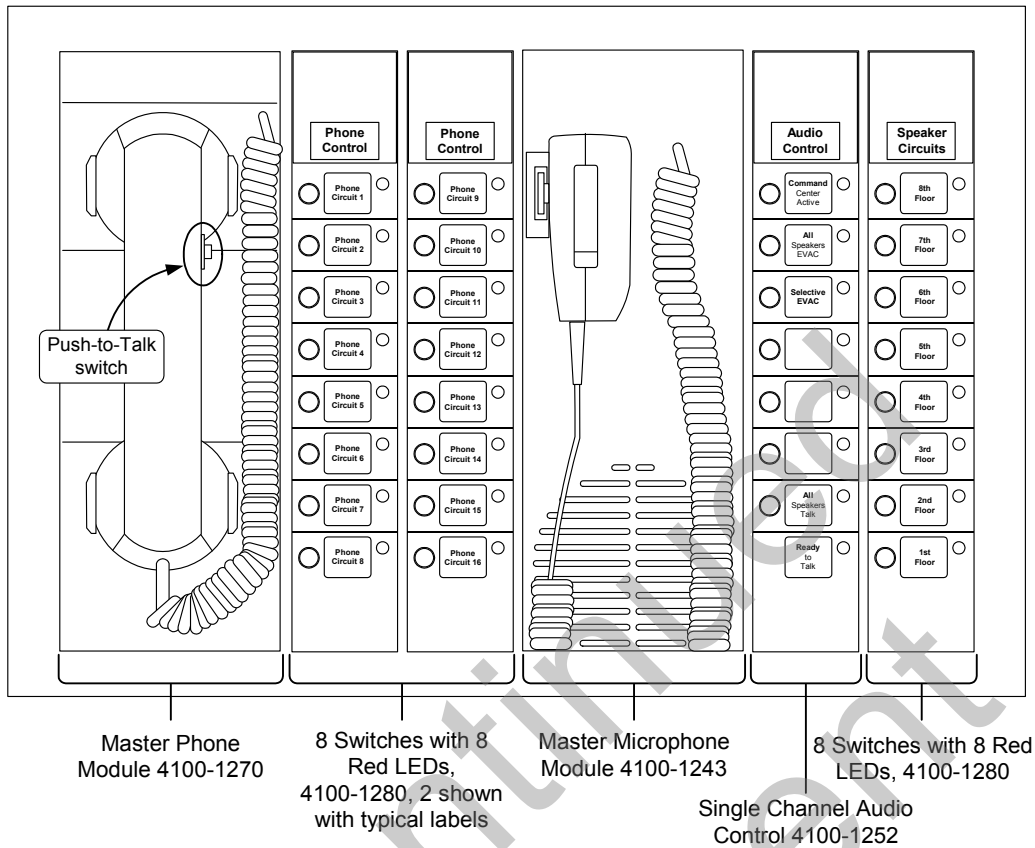
100 W amplifiers provide single channel operation per the following feature summary:

- Six standard on-board Class B audio NACs are each rated for 2 A maximum
- 100 W amplifiers include a built-in power supply and use system battery backup
- Amplifier and power supply size requires four continuous blocks of expansion bay size
- A *single* 100W primary amplifier *or* both a primary and a backup amplifier can be located on a single expansion bay (refer to page 7 for bay loading)
- Redundant (backup) amplifiers interconnect directly to minimize wiring connections and their power is routed through the NACs of the primary amplifier
- Redundant amplifier operation can be configured as one-for-one or one-for-many depending on specific requirements
- Digital models of these amplifiers have a digital decoder module that selects the desired input channel per system requirements
- Selectable reduced output levels of -12 dB or -6 dB are available for non-emergency audio output

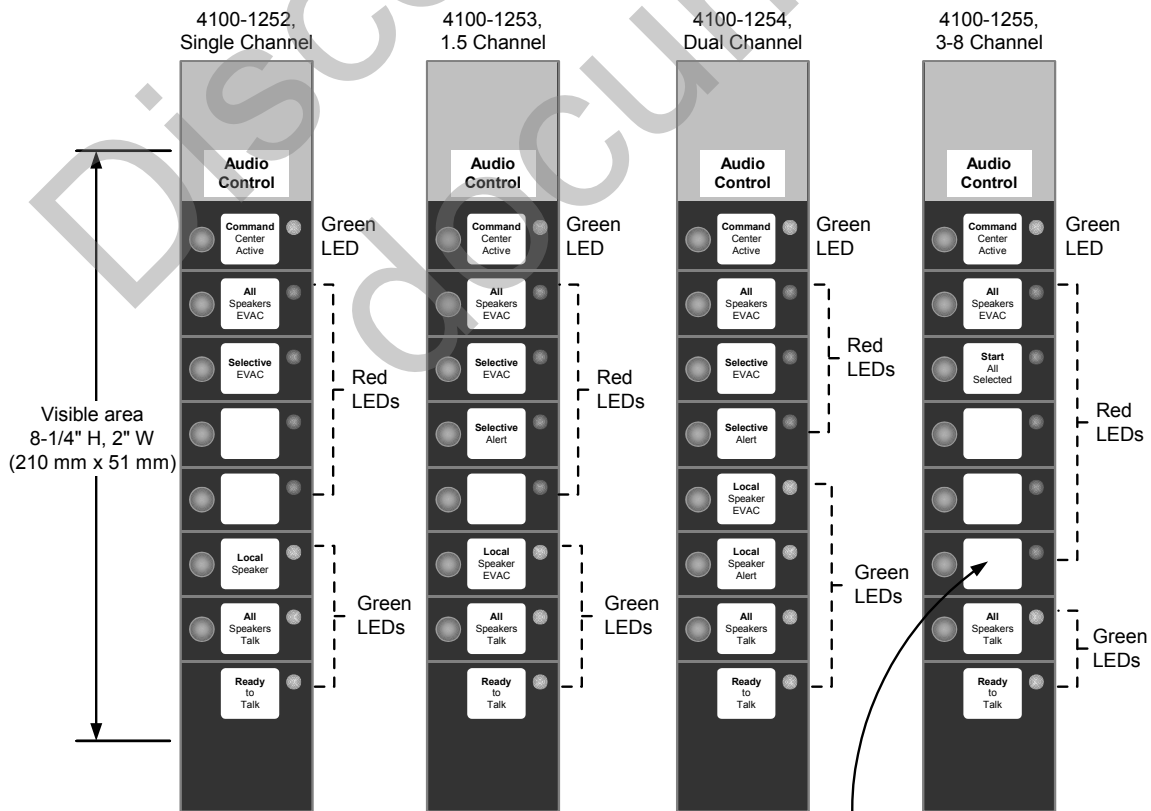
Audio NAC Expansion Modules

- For applications requiring additional NACs, modules are available for on-board expansion and further expansion is available with the chassis mounted 4100-5116 Expansion Signal Module
- 100 W Amplifiers support optional modules that convert the six audio NACs to Class A or to increase the Class B audio NACs to twelve
- **NOTE:** Adding NAC expansion modules does not increase amplifier power beyond the stated ratings

Audio Bay Reference with Single Channel Audio Control and Firefighter Telephone Modules



Audio Control Modules



Emergency Voice/Alarm Communications Equipment Product Selection

NOTE: Select systems as *either* analog or digital. When amplifiers are used for Non-Alarm Audio paging or background music with Constant Supervision, *output power is derated to 70% of alarm power* (24.5 W, 35 W, and 70 W); full output is available for alarm.

Analog Emergency Voice/Alarm Communications Equipment, Constant Supervision Compatible

Model	Description	Details
4100-9620	Basic Analog Audio Operation with microphone, requires dedicated expansion bay	Includes: Expansion Bay, 4100-1210 Analog Controller Board, Microphone Module, and Audio Expansion Bay Kit
4100-1210	Analog Controller Board only; order expansion bay and audio expansion bay kit separately	Controller board mounts in Blocks A and B
4100-1361	25 VRMS output	Includes three on-board Class B audio NACs; power is supplied from an XPS, RPS, or SPS*
4100-1362	70.07 VRMS output	
4100-1312	25 VRMS output	
4100-1313	70.7 VRMS output	

100 W Analog Amplifiers with Power Supply, Constant Supervision Compatible

Model/Output Voltage		Power Supply Input/Listing		Description	Details
25 VRMS	70.7 VRMS				
4100-1314	4100-1315	120 VAC, 60 Hz	UL	Primary 100 W Amplifier	Includes six, Class B audio NACs; NAC rating = 100 speakers maximum; 2 A @ 25 VRMS (50 W); 1.414 A @ 70.7 VRMS (100 W)
4100-1316	4100-1317	120 VAC, 60 Hz	ULC		
4100-1318	4100-1319	220/230/240 VAC, 50/60 Hz	UL		
4100-1320	4100-1321	120 VAC, 60 Hz	UL	Backup 100 W Amplifier	Uses the six Class B NACs of primary amplifier
4100-1322	4100-1323	120 VAC, 60 Hz	ULC		
4100-1324	4100-1325	220/230/240 VAC, 50/60 Hz	UL		

Digital Emergency Voice/Alarm Communications Equipment, Constant Supervision Compatible

Model	Description	Details
4100-9621	Basic Digital Audio Operation with microphone, requires dedicated expansion bay	Includes: Expansion Bay, 4100-1311 Digital Controller Board, Microphone Module, and Audio Expansion Bay Kit
4100-1311	Eight Channel Digital Controller Board only; order expansion bay and audio expansion bay kit separately	Controller board mounts in Blocks A and B
4100-1363	25 VRMS output	Includes three on-board Class B audio NACs; power is supplied from an XPS, RPS, or SPS*
4100-1364	70.07 VRMS output	
4100-1326	25 VRMS output	
4100-1327	70.7 VRMS output	

100 W Digital Amplifiers with Power Supply, Constant Supervision Compatible

Model/Output Voltage		Power Supply Input/Listing		Description	Details
25 VRMS	70.7 VRMS				
4100-1328	4100-1329	120 VAC, 60 Hz	UL	Primary 100 W Amplifier	Includes six, Class B audio NACs; NAC rating = 100 speakers maximum; 2 A @ 25 VRMS (50 W); 1.414 A @ 70.7 VRMS (100 W)
4100-1330	4100-1331	120 VAC, 60 Hz	ULC		
4100-1332	4100-1333	220/230/240 VAC, 50/60 Hz	UL		
4100-1334	4100-1335	120 VAC, 60 Hz	UL	Backup 100 W Amplifier	Uses the six Class B NACs of primary amplifier
4100-1336	4100-1337	120 VAC, 60 Hz	ULC		
4100-1338	4100-1339	220/230/240 VAC, 50/60 Hz	UL		

Audio Options for use with *either* Analog or Digital Systems (see page 2 for custom message ordering)

Amplifier and Related Audio Options

Model	Description	Details and Mounting Reference
4100-1245	Flex-35/50 Expansion NAC Module; adds three Class B audio NACs	Mounts on Flex-35/50 assembly; NAC ratings = 1.5 A, 35/50 W, or 100 speakers maximum; <i>Supv.</i> = 8.4 mA, <i>Alarm</i> = 60 mA
4100-1246	Flex-35/50 Class A Adapter Module; converts three on-board NACs to Class A operation	
4100-1248	100 W Amplifier Expansion NAC Module; NAC ratings = 1.5 A, 50 W, or 100 speakers max.	Provides six additional Class B audio NACs, mounts on 100 W amplifier assembly; <i>Supv.</i> = 17 mA, <i>Alarm</i> = 60 mA
4100-1249	100 W Class A Adapter Module; NAC ratings = 2 A, 50 W, or 100 speakers maximum	
4100-1259	25 VRMS Output; NAC rating = 2 A, 50 W, or 100 speakers maximum	Converts three Class B audio NACs to Class A or Class B Constant Supervision NACs; mounts on Flex-35/50 or 100 W amplifier assembly; use two for the six NACs on 100 W amplifiers;
4100-1260	70.7 VRMS Output; NAC rating = 0.707 A, 50 W, or 100 speakers maximum	

* Refer to data sheet S4100-0031 for power supply details.

(continued on next page)

Emergency Voice/Alarm Communications Equipment Product Selection (Continued)

Amplifier and Related Audio Options (Continued)

Model	Description	Details and Mounting Reference	
4100-5116	Expansion Signal Module; three, 1.5 A Class B NACs; up to five maximum per amplifier; NAC rating = 1.5 A, 50 W, or 100 speakers maximum	Converts one NAC input to three NAC outputs; selects between two inputs; for Flex-35/50 amplifiers only, two input NACs are required; Single Block module mounts in expansion bay; <i>Supv.</i> = 20 mA; <i>Alarm</i> = 80 mA	
4100-1266	Expansion Signal Module NAC Expander; NAC rating = 1.5 A, 50 W, or 100 speakers maximum	Expands module capacity to six, Class B NACs; <i>Supv.</i> = 0.84 mA; <i>Alarm</i> = 60 mA	These modules mount on the 4100-5116; select one max. per 4100-5116 as required
4100-1267	Expansion Signal Module Class A Adapter; NAC rating = 1.5 A, 50 W, or 100 speakers maximum	Converts 3 Class B, NACs to Class A; <i>Supv.</i> = 1 mA; <i>Alarm</i> = 30 mA	
4100-1268	Expansion Signal Module Constant Supervision Adapter for 25 VRMS or 70.7 VRMS; NAC rating = 1.4 A, 50 W, or 100 speakers maximum	Converts 3 Class B NACs to Class B or Class A Constant Supervision NACs; <i>Supv.</i> = 38 mA on batteries (<i>constant supervision deactivated</i>); <i>Alarm</i> = 70 mA	
4081-9018	End-of-line resistor harness for 70.7 VRMS NACs; 10 kΩ, 1 W		
4100-2300	Expansion Bay Hardware; order one for each expansion bay		
4100-2320	Audio Bay-to-Bay Interconnection Harness Kit; order one for each audio bay addition		
4100-0637	Audio Box Interconnection Harness Kit; order one for each close-nipped audio cabinet		

Audio Input and Controller Options (see page 2 for custom message ordering)

Model	Description	Details and Mounting Reference	
4100-1240	Auxiliary Audio Input Module; four additional (unsupervised) inputs per module; 2 maximum	Inputs for 10 VRMS, 25 VRMS, 70.7 VRMS, line level (0.707 VRMS), or microphone; 1 Block; <i>current</i> = 10 mA	
4100-1241	8 Minute Message Expansion Module	Provides 8 minutes at normal resolution or 4 minutes at high resolution; <i>Supv.</i> = 2 mA; <i>Active</i> = 17 mA	Mounts to audio controller module
4100-1242	32 Minute Message Expansion Module	Provides 32 minutes at normal resolution or 16 minutes at high resolution; <i>Supv.</i> = 2 mA; <i>Active</i> = 17 mA	

Operator Interface and Related Options

Model	Description	Details and Mounting Reference		
4100-1243	Microphone Module (mike); for Fire Alarm Control Panels	One maximum per audio system; front panel module that requires 2 Slots (4"), locate on expansion bay only; space behind for 4100ES flat modules only		<i>Supervisory current</i> = 2.4 mA <i>Active current</i> = 6 mA
4100-1244	Remote Microphone Module; for Remote Annunciator Panels	Front panel module that requires 2 Slots (4"), locate on expansion bay only; space behind for 4100ES flat modules only; distance limited to 4000 ft (1219 m)		
4003-9803	Remote Microphone Module	Mounted on plate with controls, for 2-gang box mount, see data sheet S4100-0053 for details		
4100-1252	1 Channel (audio or mike)	Operator Interface LED/Switch Modules	Single Slot LED/switch modules; connects to a 4100-1288 or 4100-1289 LED/switch controller in the same bay; space behind controller accepts 4100ES flat modules only (see drawings on p. 4); <i>current</i> = 24 mA; Additional adjacent LED/switch modules, as shown on p. 4, are used as required for specific speaker circuit selection (refer to data sheet S4100-0032 for LED/switch module availability)	
4100-1253	1.5 Channel (audio + mike)			
4100-1254	2 Channel (full audio)			
4100-1255	3-8 Channel (8 channel normal res. messages, 4 channels of high res. messages)			
4100-1288	64 LED/64 Switch Controller Module with mounting plate	Refer to data sheet S4100-0032 for details	Mounts behind the LED/switch modules; has provisions for one 4100-1289 Controller Module	LED/switch controllers and their connected modules must be in the same bay
4100-1289	64 LED/64 Switch Controller Module without mounting plate		Mounts on extra space of 4100-1288; controls additional 64 LEDs and 64 switches	

Firefighter Telephone System Products

Model	Description	Details and Mounting Reference	
4100-1270	Master Telephone with Control Module and three Class B telephone NACs, one maximum per audio system; for use in Fire Alarm Control Panels only; includes one 4100-1272 Module	Front panel module; space behind for 4100ES flat modules only; phone control module included, mounted on bay module mounting plate; for individual telephone circuit control, use LED/switch modules; <i>Supv.</i> = 80 mA; <i>in use</i> = 140 mA + remote phones (see table on page 7)	
4100-1271	Remote Master Telephone	Mounts in Remote Annunciator Panel only (see S4100-0038)	
4100-1272	Expansion Telephone Control Module with three Class B telephone NACs	Expansion module for additional telephone circuits in main control or transponders; <i>Supv.</i> = 80 mA; <i>in use</i> = 140 mA + remote phones	
4100-1273	Telephone NAC Class A Adapter Module	Mounts to 4100-1270 or -1272; no additional current required	

Network and MINIPLEX Transponder Audio Connection Options

Model	Description	Details	
4100-0623	Network Audio Riser Controller Module for control of either an analog or digital riser module	Typically for Network nodes without an audio controller, used for NAA applications; mounts in Block A; <i>current</i> = 14 mA	
4100-0621	Dual Channel <i>Analog</i> Audio Riser Module	Select one, mounts in Block B	Accepts two separate audio signals from host; controlled by Transponder Interface Module; <i>current</i> = 25 mA when active
4100-0622	3-8 Channel <i>Digital</i> Audio Riser Module; with NAA input		Receives and decodes digital inputs; up to eight audio channels; <i>current</i> = 70 mA; NAA input for 25, 70.7, or 0.707 VRMS
4100-1341	MCC (Multiple Command Center) Digital Audio Riser Interface		Selects a single digital audio channel and converts it to an analog line level for input to an analog 4100ES/ 4100U/4100 Legacy voice panel; <i>current</i> = 70 mA
4100-9854	4100/4100+ Legacy bay mounting kit	Use to mount 4100-1341 MCC Digital Audio Riser Interface in legacy panel	
4100-1258	NPU to 4100ES Audio Interconnect Module; mounts in 4100ES Audio cabinet	Dual terminal block module with harnesses for connecting to the Audio Controller and Telephone Control module (requires 1 Block)	

Firefighter Telephone System Description

Firefighter telephone systems provide two-way communications for facilities where radio communications may not be available or are unreliable. They are typically used during active firefighting conditions, during a fire alarm investigation, or during fire alarm system inspection and test.

System Operation. Connections are made using a common talk line (party line) that includes a Master Telephone and up to six remote telephones. Remote telephones call into the Master by either being taken off-hook or by being plugged into a telephone jack. The Master Telephone location receives a ring-in tone with a visible LED indicator for each telephone circuit. When the call is received, the operator selects the calling telephone circuit using the assigned switch control. The operator at the master location can place the original telephone circuit on hold and connect to additional telephone circuits or add them to the talk line.

Master Telephone Operation. The Master Telephone connects directly into a telephone interface module. A Push-to-Talk (PTT) switch provides the operator with voice input control. Each master telephone uses local LED/switch modules to select telephone circuits and to silence any subsequent call-ins until selected.

Telephone Circuit Control. A call request causes the local call-in tone sounder and assigned telephone circuit LED to pulse quickly. Pushing the calling circuit's switch silences the local sounder and connects that circuit to the talk line. Activating the switch again places that circuit on hold with a hold tone being heard at the remote telephones and causing that circuit's LED to pulse slowly. Subsequent pushes toggles from active to hold. Activating a telephone circuit switch when no call is incoming places a request to pick up on remote telephones equipped with local LEDs. Master telephones can be also be connected as an input to an audio controller module to allow audio system message broadcasting without using a microphone.

Remote Master Telephones mount in Remote Annunciator Cabinets and are wired as the only connection to a telephone circuit. By adding local LED/switch modules, operation is that of the Master Telephone.

Remote telephones are available cabinet mounted or for plugging into a dedicated telephone jack. Each hears a ring tone when a call-in is selected and a hold tone when placed on hold. When on hold, the remote telephones are each separated from the talk line.

The Telephone Interface Module provides three Class B (Class A option is available) telephone circuits, connection for a master telephone, and a telephone riser input. One module is supplied when selecting a Master Telephone. Additional telephone interface modules can be added as required. Telephone circuit outputs can be programmed as remote telephones, as a Remote Master, or for telephone riser operation. Telephone circuits are supervised for opens, shorts, and overload conditions. The Master Telephone is supervised for broken cord or off-hook.

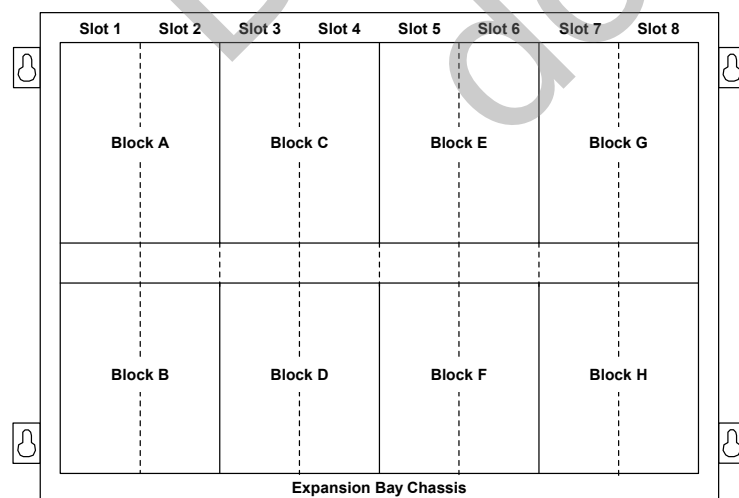
Telephone riser operation can be programmed to provide a telephone riser output that is used to interconnect telephone interface modules in different locations. This output type has ring and hold tones disabled.

Degraded Mode. If the telephone interface module loses communications with the host fire alarm control panel, telephone circuits off-hook are automatically connected to the talk line allowing any telephone to talk to another simply by being picked up (or plugged in).

Master Telephone Control Current with Remote Telephones. The following table lists Master Telephone Control current with the addition of remote firefighter telephones.

Remote Phones	0	1	2	3	4	5	6
Current (mA)	140	180	220	250	276	304	329

Expansion Bay Module Loading Reference



Size Definitions: Block = 4" W x 5" H (102 mm x 127 mm) card area
Slot = 2" W x 8" H (51 mm x 203 mm) motherboard with daughter card

Description	Mounting
Audio Controller Modules	Blocks A & B
Network Riser Controller Module	Block A
Audio Riser Modules	Block B
SPS or RPS	Blocks E, F, G & H ONLY
XPS	Blocks G & H ONLY*
Flex-35 Amplifiers, 2 max /bay*	Blocks E & F; C & D; or A & B
Flex-50 Amplifiers, 2 max/bay*	Blocks E & F or C & D
100 W Amplifiers, 1 max/bay	Blocks E, F, G & H
100 W Backup Amplifiers, 1 max. per bay with primary amplifier	Blocks A, B, C & D
Master or Remote Phone Module	Blocks A & B
Master or Remote Microphone Module	Two vertical Blocks, any location (except next to telephone)
Telephone Module	1 Block
Expansion Signal Module	1 Block
Operator LED/Switch Modules	1 Slot
NPU to 4100ES Audio Interconnect Module	1 Block

* **NOTE:** When mounting dual Flex amplifiers on an expansion bay, special mounting rules apply.

General Specifications

Input Power

Power Supplies: SPS, XPS, RPS, and 100 W Amplifiers	120 VAC Models	4 A maximum @ 102 to 132 VAC, 60 Hz
	220-240 VAC Models	2 A maximum @ 204 to 264 VAC, 50/60 Hz; with taps for 220/230/240 VAC

Amplifier Ratings

Built-in Tones	500 Hz horn tone operated at temporal pattern, provided when amplifiers are separated from audio controller		
Flex-35 Amplifiers: 4100-1361 4100-1362 4100-1363 4100-1364	Input Voltage	19 to 35 VDC from adjacent power supply	
	Supervisory Current	425 mA with power stage supervised	
		85 mA in low power mode	
	Alarm Current @ full output power	5.5 A with continuous horn tone	Use this value for power supply loading
1.64 A average, with temporal pattern horn		Use this value for battery backup reference	
Flex-50 Amplifiers: 4100-1312 4100-1313 4100-1326 4100-1327	Input Voltage	19 to 35 VDC from adjacent power supply	
	Supervisory Current	425 mA with power stage supervised	
		85 mA in low power mode	
	Alarm Current @ full output power	5.55 A with continuous horn tone	Use this value for power supply loading
2.27 A average, with temporal pattern horn		Use this value for battery backup reference	
100 W Amplifiers and Backup Amplifiers: 4100-1314, 4100-1316, 4100-1318, 4100-1320, 4100-1322, 4100-1324; 4100-1328, 4100-1330, 4100-1332, 4100-1334, 4100-1336, 4100-1338	Supervisory Current	400 mA (analog); 220 mA (digital) with power stage supervised	
		85 mA in low power mode	
	Alarm Current @ full output power	9.6 A with continuous horn tone	
		3.8 A average, with temporal pattern horn	Use this value for battery backup reference
Total Amplifier Power per Cabinet	300 W maximum		

Audio Controller Ratings

Current Requirements	4100-9620, 4100-1210	Analog = 225 mA supervisory	Add for local speaker in alarm: 75 mA min. volume; 190 mA half volume; 333 mA full volume; Add microphone current separately; Supv. = 2.4 mA; Active = 30 mA
	4100-9621, 4100-1311	Digital = 85 mA supervisory	
Analog Riser Distance		Up to 10,000 ft (3048m) total with 18 AWG (0.82 mm ²) shielded twisted pair (STP)	
Digital Riser Distance; 18 AWG unshielded, twisted pair (UTP) required, except as noted (refer to Installation Instructions 574-844)*		Up to 2500 ft (762 m) from 4100-1311 Digital Controller to 4100-0622 Digital Audio Riser or 4100-1341 MCC Digital Riser Interface; up to 2500 ft (762 m) between 4100-0622 Digital Audio Riser Modules or 4100-1341 MCC Digital Riser Interfaces (signal is reformatted and repeated); wire runs over 100 ft (30 m) require UTP wire	
		* NOTE: Wire runs of 100 ft (30 m) or less require shielded twisted pair wire (STP)	

Firefighter Telephone Distance Ratings

Distance	7500 ft (2286 m) distance to farthest phone, 18 AWG shielded twisted pair (STP)
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Battery Charger, System and Remote Power Supply (sealed lead-acid batteries)

Battery capacity range	UL listed for battery charging of 6.2 Ah up to 110 Ah (batteries larger than 50 Ah require a remote battery cabinet); ULC listed for charging up to 50 Ah batteries
Charger characteristics and performance	Temperature compensated, dual rate, recharges depleted batteries within 48 hours per UL Standard 864, to 70% capacity in 12 hours per ULC Standard S527

Environmental and Installation Instruction Reference

Operating Temperature Range	32° to 120°F (0° to 49° C)		
Operating Humidity Range	Up to 93% RH, non-condensing @ 90° F (32° C) maximum		
Installation Instructions Reference	Flex Amplifiers	579-173	Constant Supervision NAC Modules
	Digital/Analog Amplifiers	579-174	Firefighter Phones
			579-515
			579-226

Additional 4100ES Product Reference

Subject	Data Sheet	Subject	Data Sheet	Subject	Data Sheet
Battery and Battery Cabinet Reference for 4100ES	S2081-0006	NDU with SPS Power Supplies for 4120 Network	S4100-0036	4100ES Basic Panels with EPS Power Supplies	S4100-0100
110 Ah Batteries and Cabinets for 4100ES	S2081-0012	4100ES Remote Annunciator Panels	S4100-0038	InfoAlarm Command Center with EPS Power Supplies	S4100-0101
Seismic Battery Brackets Reference	S2081-0019	InfoAlarm Command Center with SPS Power Supplies	S4100-0045	NDU with EPS Power Supplies for 4120 Network	S4100-0102
4100ES Basic Panels with SPS Power Supplies	S4100-0031	NDU with SPS Power Supplies for ES Net	S4100-0077	NDU with EPS Power Supplies for ES Net	S4100-0104

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UL26-12



Physical Specification

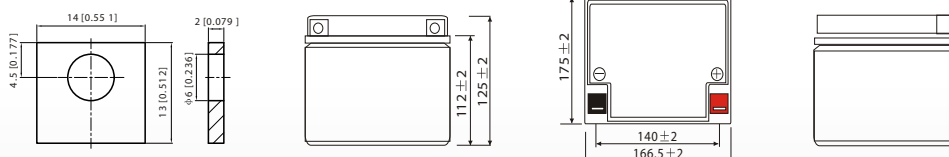
Part Number:	UL26-12
Length:	166.5 ± 2 mm (6.52 inches)
Width:	175 ± 2 mm (6.89 inches)
Container Height:	125 ± 2 mm (4.92 inches)
Total Height (with terminal):	125 ± 2 mm (4.92 inches)
Approx Weight:	Approx 8kg (17.6lbs)

Specifications

	Normal Voltage	12V
	Normal Capacity (20HR)	26AH
Terminal Type	Standard Terminal	F3
	Optional Terminal	F12
Container Material	Standard Option	ABS
	Flame Retardant Option (FR)	UL94:VO
Rated Capacity	26.0 AH/1.30A	(20hr, 1.80V/cell, 25°C / 77°F)
	24.2 AH/2.43A	(10hr, 1.80V/cell, 25°C / 77°F)
	22.2 AH/4.44A	(5hr, 1.75V/cell, 25°C / 77°F)
	19.9 AH/6.65A	(3hr, 1.75V/cell, 25°C / 77°F)
	16.4 AH/16.4A	(1hr, 1.60V/cell, 25°C / 77°F)
Max Discharge Current	390A (5s)	
Internal Resistance	Approx 14mΩ	
Discharge Characteristics	Operating Temp. Range	Discharge: -15 ~ 50°C (5 ~ 122°F) Charge: 0 ~ 40°C (5 ~ 104°F) Storage: -15 ~ 40°C (5 ~ 104°F)
	Nominal Operating Temp. Range	25 ± 3°C (77 ± 5°F)
	Cycle Use	Initial Charging Current less than 7.8A. Voltage 14.4V ~ 15.0V at 25°C (77°F) Temp. Coefficient -30mV/°C
	Standby Use	No limit on Initial Charging Current Voltage 13.5V ~ 13.8V at 25°C (77°F) Temp. Coefficient -20mV/°C
	Capacity affected by Temperature	40°C (104°F) 103%
		25°C (77°F) 100%
		0°C (32°F) 86%
Design Floating Life at 20°C	5 Years	
Self Discharge	Ultracell batteries may be stored for up to 6 months at 25°C(77°F) and then a refresh charge is required. For higher temperatures the time interval will be shorter.	

Dimensions

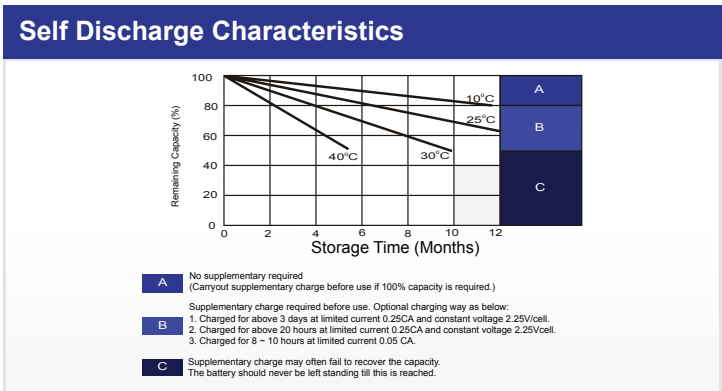
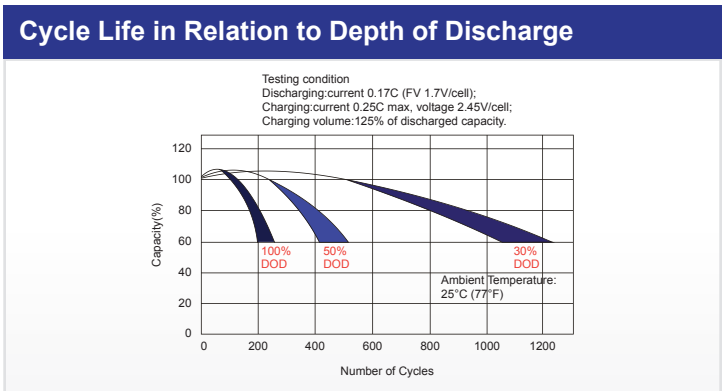
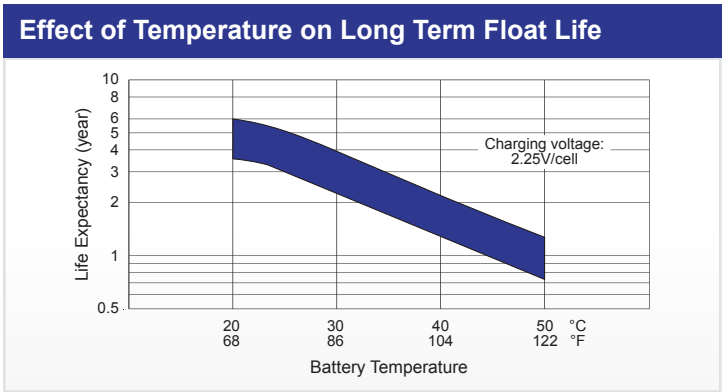
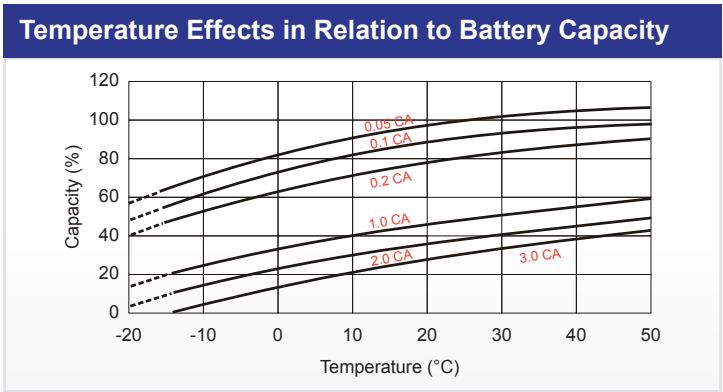
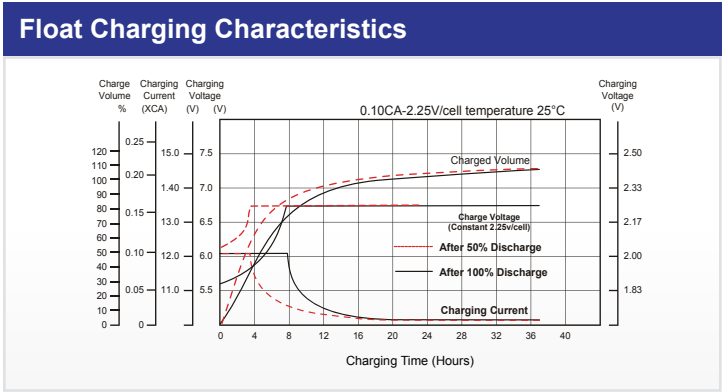
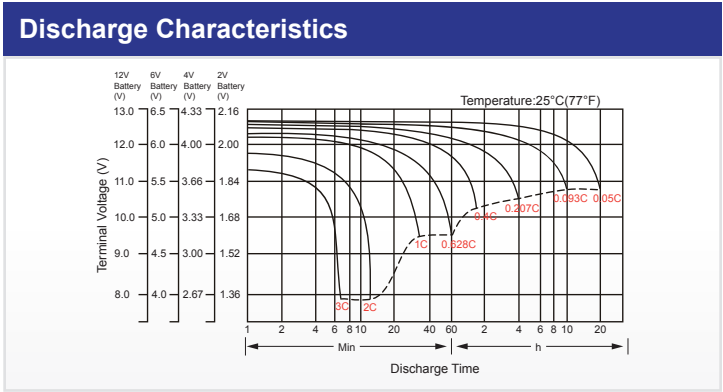
F3 Terminal



ALL DATA IS SUBJECT TO CHANGE WITHOUT NOTICE

Constant Current Discharge (Amperes) at 25°C (77°F)															
F.V/Time	5 min	10 min	15 min	20 min	30 min	45 min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	59.3	44.8	37.0	31.3	23.5	17.3	13.9	8.41	6.27	5.04	4.24	3.66	2.87	2.38	1.28
1.80V/cell	70.3	50.1	40.3	33.7	25.0	18.2	14.5	8.74	6.48	5.19	4.35	3.75	2.94	2.43	1.30
1.75V/cell	79.5	54.5	43.1	35.6	26.3	19.0	15.1	9.00	6.65	5.31	4.44	3.82	2.99	2.46	1.33
1.70V/cell	87.6	58.4	45.5	37.4	27.4	19.7	15.6	9.23	6.79	5.41	4.52	3.88	3.03	2.50	1.34
1.65V/cell	94.5	61.9	47.7	38.9	28.3	20.3	16.1	9.43	6.92	5.50	4.58	3.93	3.07	2.52	1.35
1.60V/cell	100.6	64.9	49.6	40.2	29.1	20.8	16.4	9.60	7.02	5.57	4.64	3.97	3.10	2.55	1.36

Constant Power Discharge (Watts) at 25°C (77°F)															
F.V/Time	5 min	10 min	15 min	20 min	30 min	45 min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	112.3	85.7	71.4	61.0	46.1	34.0	27.5	16.7	12.5	10.1	8.52	7.38	5.81	4.81	2.61
1.80V/cell	132.1	95.2	77.3	65.2	48.8	35.7	28.7	17.3	12.9	10.4	8.71	7.53	5.92	4.89	2.63
1.75V/cell	148.1	102.9	82.2	68.7	51.0	37.1	29.6	17.8	13.2	10.6	8.87	7.65	6.00	4.96	2.67
1.70V/cell	161.6	109.4	86.3	71.7	53.0	38.4	30.5	18.2	13.4	10.7	8.99	7.75	6.07	5.00	2.69
1.65V/cell	172.9	115.1	89.9	74.3	54.6	39.4	31.4	18.5	13.7	10.9	9.10	7.83	6.13	5.05	2.71
1.60V/cell	182.3	119.8	92.9	76.5	56.0	40.2	32.0	18.8	13.8	11.0	9.18	7.89	6.17	5.08	2.73



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Features

Compatible with Simplex ES Net and 4120 fire alarm networks

Basic system features:

- Models available with Color ES Touch Screen Display or Monochrome 2 line x 40 character display.
- Capacity for up to 1000 addressable IDNet points, or up to 1000 addressable MX Loop points and up to 127 VESDA SLI points, with up to 2000 points of annunciation and up to 20 internal and external card addresses
- CPU assembly includes dedicated Compact Flash memory for on-site system information storage and convenient Ethernet service port access
- 8 A power supply with up to 2 A of auxiliary power and battery charger capacity for up to 110 Ah batteries (UL) or up to 50 Ah batteries (ULC); 33 Ah max in one bay control cabinet, 50 Ah max with 4100-0650 battery shelf in two bay control cabinet
- 4 onboard Class A or B, 3 A NACs and one programmable auxiliary relay output rated for 2 A @ 32 VDC
- Remote annunciator module support through Remote Unit Interface (RUI) communications port, either Class B or Class A operation
- 48 LED Control Unit annunciation provides 40 Red and 8 Yellow pluggable LEDs (select models), optional LED kits are available for custom LED configurations

Optional Main System Supply 2 and door mounted modules, and other options include:

- City Connect Module, with or without disconnect switches
- Alarm Relay module
- Battery brackets for seismic area protection

Optional block space modules include:

- Fire Alarm Network Interface Card (NIC) for ES Net or 4120
- Peer to-Peer network communications, supports either Class B or Class X operation
- Ethernet connectivity options include ES Net Network Interface Card, Building Network Interface Card (BNIC), SafeLINC Internet Interface, and BACpac Ethernet Portal
- Dual RS-232 Module, for printer or third party interface
- VESDA Air Aspiration High Level Interface
- Serial DACT
- Four point Auxiliary Relay Module
- Modem or TCP/IP Physical Bridge Network Modules, Class B or Class X
- Additional IDNet and MX Loop addressable channels
- 8-Point Zone/Relay Module
- 4-Point Auxiliary Relay Module with or without feedback

Compatible with Simplex remotely located:

- IP communicator compatibility
- 4606-9102 Remote LCD Annunciator, 4100-9400 Series ES Touch Screen Displays, 4100-9400 Series Remote InfoAlarm Command Centers, and 4602 Series Status Command Units (SCU) and Remote Command Units (RCU) Annunciators
- 4190 Series Fiber Modems and Physical Bridges
- 4081 Series, 110 Ah Battery Chargers
- 4100-7400 Series Graphic Annunciators

- 4009 IDNet NAC Extenders (4009A)
- 4003EC Small Voice Control Units
- 4098-9757 QuickConnect2 and legacy 4098-9710 QuickConnect TrueAlarm smoke sensors



Figure 1: 1-Bay Cabinet with 2 x 40 Monochrome LCD Display



Figure 2: 1-Bay Cabinet with 2 x 40 Monochrome LCD Display and LED Annunciation



Figure 3: 2-Bay Cabinet with 2 x 40 Monochrome LCD Display

4010ES Agency listings*

- UL 864 - Control Units, System (UOJZ); Control Unit Accessories, System, Fire Alarm (UOXX); Control Units, Releasing Device Service (SYZV); Smoke Control System Equipment (UUKL)
- UL 1076 - Proprietary Alarm Units (APOU)
- UL 1730 - Smoke Detector Monitors and Accessories (UULH)
- UL 2017 - Emergency Alarm System Control Units, CO detection (FSZI); Process Equipment Management (QVAX)
- ULC-S527 - Control Units, System, Fire Alarm (UOJZ7); Control Unit Accessories, System, Fire Alarm (UOXX7); Control Units, Releasing Device Service (SYZV7)
- ULC-S559 - Central Station Fire Alarm System Units (DAYR7)
- ULC/ORD-C1076 - Proprietary Burglar Alarm System Units (APOU7)
- ULC/ORD-C100 - Smoke Control System Equipment, (UUKL7)

Introduction

4010ES series fire detection and control units

4010ES series fire detection and control units provide leading installation, operator, and service features for customer applications in the mid-range addressable fire alarm systems market. An onboard Ethernet port provides fast external system communications to expedite installation and service activity. Dedicated Compact Flash memory

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7165-2269:0541 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

archiving provides secure on-site system information storage of electronic job configuration files.

Modular design

A variety of functional modules are available to meet specific system requirements. Selections allow control units to be configured for either Stand-Alone or Networked fire control operation.

Mechanical description

- The mounting box provides convenient stud markers for drywall thickness and nail hole knockouts for quicker mounting
- Smooth box surfaces are provided for locally cutting conduit entrance holes exactly where required
- The hinged user interface control unit easily opens for internal access
- NACs are mounted directly on power supply assemblies providing minimized wiring loss, compact size, and readily accessible terminations
- Modules are power-limited except as noted, such as relay modules
- Doors include tempered glass inserts; boxes and doors are available in platinum or red
- Box and door or retainer assemblies are included with basic control unit assemblies
- Cabinet assembly is rated NEMA 1 and IP 30
- Cabinet assembly design has been seismic tested and is certified to IBC and CBC standards as well as to ASCE 7 categories A through F, requires battery brackets as detailed on data sheet *Battery Brackets for Seismic Activity Applications S2081-0019*

Control unit hardware

Master Controller and Main System Supply 2

Mounted in the upper section of the 4010ES cabinet. See the loading reference diagrams in [Cabinet one and two bay loading reference](#).

4010ES Block Space Option Cards

4010ES Block Space Option Cards mount to the left of the 4010ES Main System Supply 2. In two bay cabinets block space option cards also mount below the 4010ES ESS.

Other 4010ES options

The 4010ES City Connect module or the optional Alarm Relay module mount directly to the Main System Supply 2. These options are mutually exclusive.

The battery compartment

The battery compartment is located in the bottom of the 4010ES cabinet. The cabinet allows for up to 33 Ah battery capacity for 1 bay systems, and 50 Ah for 2 bay systems. 50 Ah batteries also require the use of a 4100-0650 battery shelf.

Figure 13 identifies mounting locations for optional 4010ES modules.

Software feature summary

- TrueAlarm individual analog sensing with front panel information and selection access
- Dirty TrueAlarm sensor maintenance alerts, service and status reports including almost dirty
- TrueAlarm magnet test indication appears as distinct test abnormal message on display when in test mode
- TrueAlarm sensor peak value performance report
- Install Mode allows grouping of multiple troubles for uninstalled modules and devices into a single trouble condition
- Module level ground fault searching assists installation and service by locating and isolating modules with grounded wiring
- Recurring Trouble Filtering allows the control unit to recognize, process, and log recurring intermittent troubles, such as external

wiring ground faults, but only sends a single outbound system trouble to avoid nuisance communications

- WALKTEST silent or audible system test performs an automatic self-resetting test cycle

Compatible peripheral devices

The 4010ES is compatible with an extensive list of remote peripheral devices including printers and both conventional and addressable devices including TrueAlarm analog sensors.

Addressable device control

The 4010ES provides standard addressable device communications for IDNet compatible devices. Using a two wire communications circuit, you can interface individual devices such as manual fire alarm stations, TrueAlarm sensors, conventional IDC zones, and sprinkler waterflow switches to the addressable controller to communicate their identity and status.

Addressability facilitates the display of the location and condition of the connected device on the operator interface LCD and on remote system annunciators. With addressable devices, you can individually control and monitor control circuits such as fans or dampers.

Addressable operation

Each addressable device on the communication channel is continuously interrogated for status condition such as: normal, off-normal, alarm, supervisory, or trouble. Both Class B and Class A pathway operation are available. Sophisticated poll and response communication techniques ensure supervision integrity and allow for T-tapping of the circuit for Class B operation. Devices with LEDs pulse the LED to indicate receipt of a communications poll. Use the control unit to turn the LED on steady.

IDNet addressable channel capacity

The Main System Supply 2 provides an electrically isolated IDNet2 signaling line circuit (SLC) that supports up to 250 addressable monitor and control points intermixed on the same pair of wires. Additional 250 address IDNet 2+2 Modules with **four** short circuit isolating output loops are available. IDNet2 and IDNet 2+2 Module SLCs are isolated from other system reference voltages to reduce common mode noise interaction with adjacent system wiring.

Table 1: IDNet 2 and IDNet 2+2 SLC wiring specifications

Specification	Rating
Maximum distance from control unit for each device load	0 to 125 126 to 250
	4000 ft (1219 m); 50 ohms 2500 ft (762 m); 35 ohms
Total wire length allowed with T-taps for Class B wiring	Up to 12,500 ft (3.8 km); 0.60 μ F
Maximum capacitance between IDNet channels	1 μ F
Wire type and connections	Shielded or unshielded, twisted or untwisted wire. See note.
Connections	Terminals for 18 to 12 AWG (0.82 mm ² to 3.31 mm ²)
Installation instructions	579-989
Compatibility includes: IDNet communicating devices and TrueAlarm sensors including QuickConnect and QuickConnect2 sensors. For more information, refer to data sheet <i>S4090-0011</i> .	
Note: Some applications may require shielded wiring. Review your system with your local Simplex product supplier.	

TrueAlarm system operation

Addressable device communications include operation of TrueAlarm smoke and temperature sensors. Smoke sensors transmit an output value based on their smoke chamber condition and the CPU maintains a current value, peak value, and an average value for each sensor.

Status is determined by comparing the current sensor value to its average value. Tracking this average value as a continuously shifting reference point filters out environmental factors that cause shifts in sensitivity.

Programmable sensitivity

The programmable sensitivity of each sensor is selectable at the control unit for different levels of smoke obscuration (shown directly in percent) or for specific heat detection levels. To evaluate whether the sensitivity should be revised, the peak value is stored in memory and can be easily read and compared to the alarm threshold directly in percent.

CO sensor bases

CO sensor bases combine an electrolytic CO sensing module with a TrueAlarm analog sensor to provide a single multiple sensing assembly using one system address. You can enable or disable the CO sensor. It can be used in LED or Switch mode and custom control. You can make it public for communication across a fire alarm network. Refer to data sheet *TrueAlarm CO Sensor Bases for Smoke, Heat, and Photo/Heat Sensors using IDNet Communications S4098-0052* for details.

TrueAlarm heat sensors

You can select TrueAlarm heat sensors for fixed temperature detection, with or without rate-of-rise detection. Utility temperature sensing is also available, typically to provide freeze warnings or alert to HVAC system problems. Readings are selectable as either Fahrenheit or Celsius.

TrueSense early fire detection

Multi-sensor 4098-9754 provides photoelectric and heat sensor data using a single 4010ES IDNet address. The control unit evaluates smoke activity, heat activity, and their combination, to provide TrueSense early detection. For more details on this operation, refer to data sheet *TrueAlarm Multi-Sensor Model A4098-9754 Providing TrueSense Early Fire Detection S4098-0024*.

Diagnostics and default device type

Sensor status

TrueAlarm operation allows the control unit to automatically indicate when a sensor is almost dirty, dirty, and excessively dirty. The NFPA 72 requirement for a test of the sensitivity range of the sensors is fulfilled by the ability of TrueAlarm operation to maintain the sensitivity level of each sensor. CO sensors track their 10 year active life status providing indicators to assist with service planning. Indicators occur at: 1 year, 6 months, and when end of life is reached.

Modular TrueAlarm sensors

Modular TrueAlarm sensors use the same base and different sensor types (smoke or heat sensor) and can be easily interchanged to meet specific location requirements. This allows intentional sensor substitution during building construction when conditions are temporarily dusty, instead of covering smoke sensors, causing them to be disabled. Heat sensors may be installed without reprogramming the control unit. The control unit will indicate an incorrect sensor type, but the heat sensor will operate at a default sensitivity to provide heat detection for building protection at that location.

Master controller (CPU)

- The 4010ES Master Controller includes dedicated Compact Flash mass storage memory for on-site system information storage and convenient Ethernet service port access
- Convenient front panel accessed Ethernet port for quick and easy download of site-specific programming and firmware enhancements. Firmware enhancements are made through software downloads to the onboard flash memory.
- Every downloaded job is automatically stored to Compact Flash without overwriting earlier versions providing a means for recovering previous configurations

- Downtime is reduced because the system stays running during download
- Modifications can be uploaded as well as downloaded for greater service flexibility
- Mass Storage allows job specific files to be stored in the control unit such as test and inspection reports, record drawings, specifications, and more
- RUI (Remote Unit Interface) communications port supports either Class B or Class A operation for remote annunciation equipment

Basic control unit description

4010ES control units include:

- The Main System Supply 2 provides the power source and the input/output connections for the basic 4010ES control unit listed below
- An operator interface, master controller with Compact Flash, IDNet or MX Loop addressable device SLC(s) with short circuit isolating loops configurable for Class B or Class A operation.
- 8 A power supply with up to 2 A of auxiliary power, 110 Ah (UL)/50 Ah (ULC) battery charger (33 Ah maximum in one-bay cabinet, 50 Ah maximum with 4100-0650 battery shelf in two-bay control cabinet); four Class A or Class B NACs rated @ 3 A each for Special Application Appliances, selectable for synchronized strobe, or SmartSync horn/strobe operation over two wires; and 2 A for Regulated 24 DC operation; one programmable auxiliary relay rated for 2 A @ 32 VDC.
- One RUI Class B or Class A communications port for remote annunciation devices, cabinet and door.
- Support for up to 20 internal and external card addresses. Other standard options may be provided depending on model. See [Basic control unit model selection](#), [one bay control units](#) and [Basic control unit model selection, two bay control units](#) for additional details on specific models.

8-Point Zone/Relay module details

- **Select as IDC or Relay;** configure up to eight Class B IDCs, or up to four Class A IDCs; or up to eight Relay outputs rated 2 A resistive @ 30 VDC (N.O. or N.C.); or combinations of IDCs and Relays; each zone is separately configurable as an IDC or Relay output.
- **IDC support:** each IDC supports up to 30, two-wire devices. Zone relay modules may be powered directly from the control unit power supply or through the optional 25 VDC regulator module where required for 2-wire detector compatibility. Refer to *2-Wire Detector Compatibility Chart 579-832* for additional details.
- **IDC EOL resistor values are selectable as:** 3.3 kOhms, 2 kOhms, 2.2 kOhms, 3.4 kOhms, 3.9 kOhms, 4.7 kOhms, 5.1 kOhms, 5.6 kOhms, 6.34/6.8 kOhms, and 3.6 kOhms + 1.1 kOhms. For more details refer to *Zone/Relay Module Installation Instructions 579-1236*.

Color ES touch screen display

The Color ES Touch Screen Display interface offers intuitive operation similar to a tablet or smart phone. With a larger area format versus an individual text line display, more information is available at a glance, and minimal key presses are needed to access detailed information.

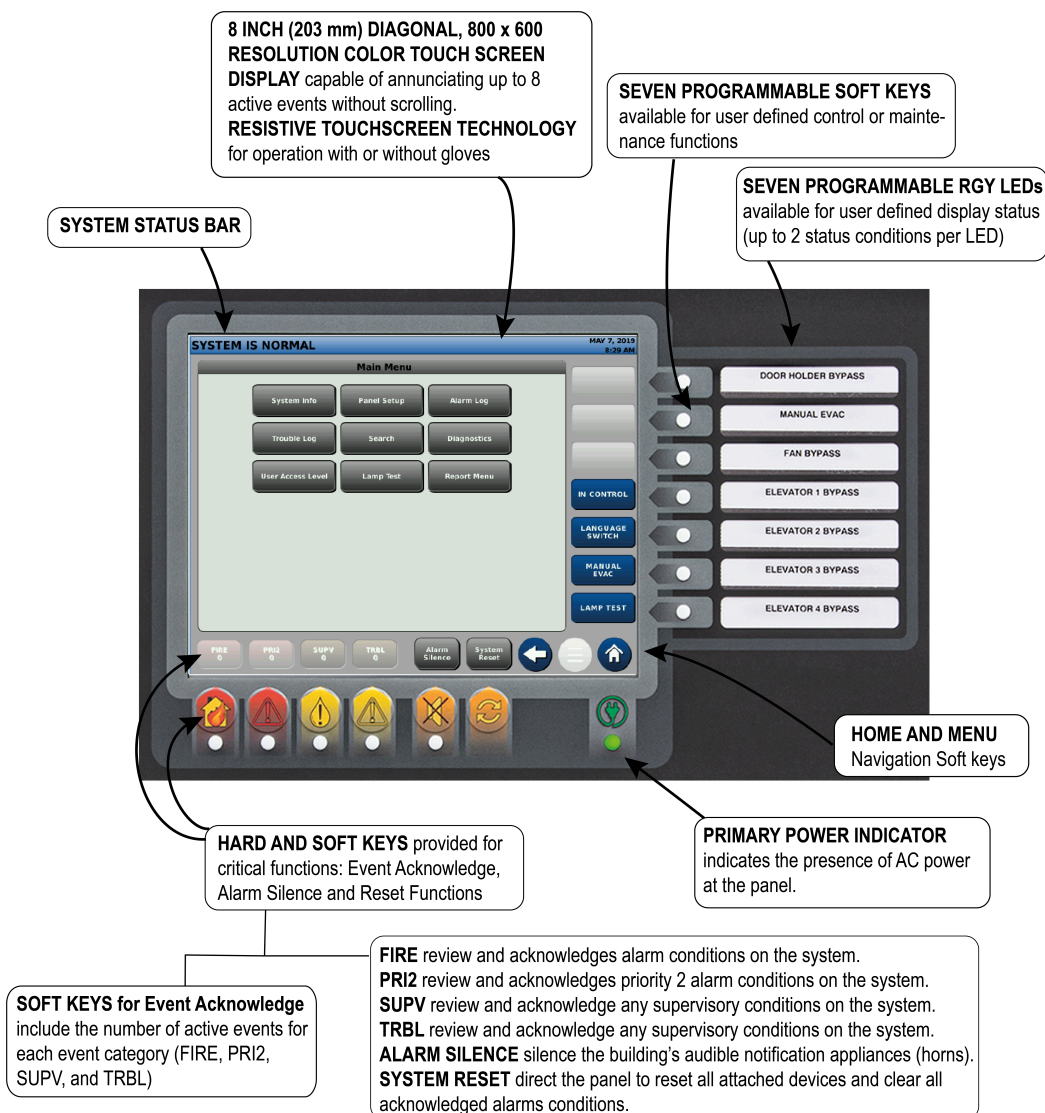


Figure 4: ES Touch screen display operator interface

Features

ES Touch Screen Displays provide customized operating experience

- Event activity display choices include: First 8 Events; or First 7 Events with emphasis on Most Recent; or First 6 Events with emphasis on First and Most Recent, individually selectable for each event type.
- System reports are easily viewable. You can read logs with minimal scrolling.
- Up to two languages are available for each system, easily selected by programmable key press
- You can vector by point or zone, information sent to remote ES Touch Screen Displays.
- Both Hard and Soft keys available for the following critical functions: Event Acknowledge, Alarm Silence, and Reset Functions
- Resistive touchscreen technology allows for operation with or without gloves.
- Seven programmable RGY LEDs available for user-defined display status. Up to two status conditions for each LED.
- Seven programmable Soft keys available for user-defined control or maintenance functions
- PRI2 Soft key label can be changed to CO to annunciate Carbon Monoxide detection status
- You can program the ES Touch Screen Display to report individual points or groups of points as a single zone.
- You can display a custom watermark background file of a company logo or other desired display content.
- Seismically compliant under the State of California Statewide Office of Housing and Development (OSHPD) Special Seismic Certification (SSC) program guidelines. Refer to *Simplex Seismic Application Guide (579-1213)* and *Battery Brackets for Seismic Activity Applications (S2081-0019)* for details.

Display properties

- 8 inch (203 mm) diagonal, 800 x 600 resolution color touch screen display capable of annunciating up to 8 active events without scrolling
- Bright white LED backlighting provides efficient and long lasting illumination; backlight is dim in quiescent state, automatically switches to full power on touch or on event activity in system.

Description

ES Touch Screen Displays for 4010ES fire alarm systems provide a large display with extended information content, dual language support including UTF-8 character languages, and an intuitive control key interface with the following features:

- Each 4010ES control panel supports up to 8 ES Touch Screen Displays, one main and seven remote. It can enable one ES Touch Screen Display to take-control and to designate access levels for interfaces not in-control; you can assign programmable LEDs to in-control status indications.
- Menu-driven format conveniently prompts operators for the next action required
- Direct point callup displays individual points alphabetically and then homes in on the logical choice as more point information is entered
- Event categories are color coded for quick visual representation; Red for Alarm and Priority 2 Events; Yellow for Supervisory and Trouble events
- Date formats are either MM/DD/YY or DD/MM/YY
- Time formats are either 24 hour or 12 hour with AM/PM
- System Normal screen supports a color background (watermark) for company name, company logo, or other desired display content.

Example display screens

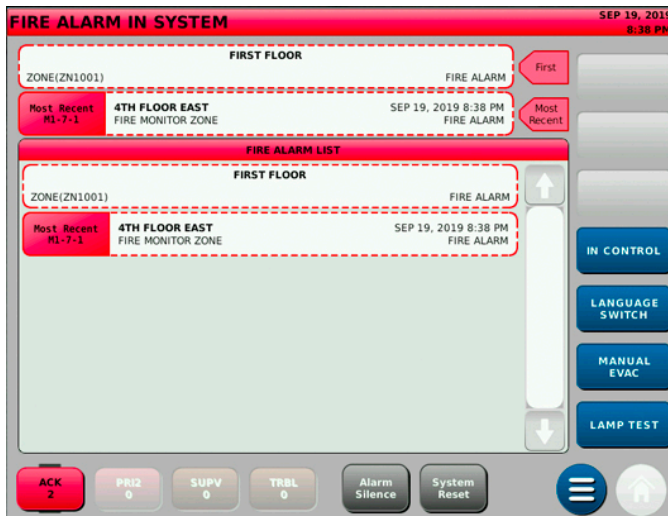


Figure 5: First and most recent alarm display



Figure 6: Main Menu

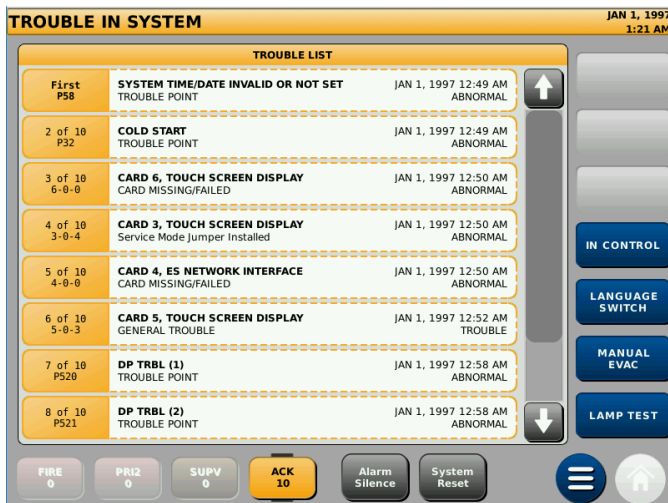


Figure 7: First eight active Trouble events list

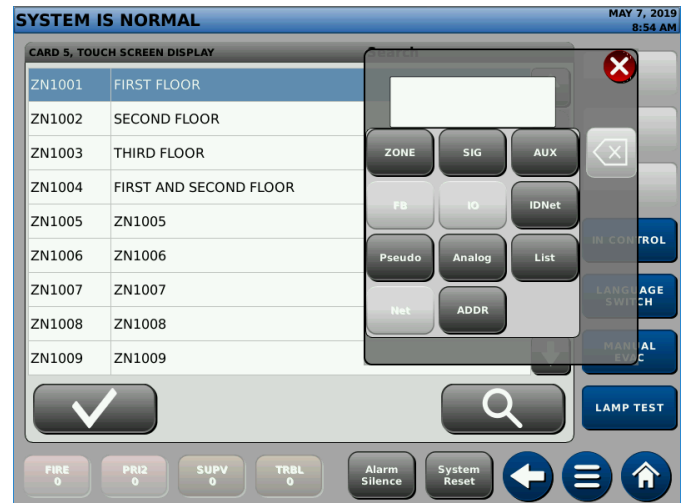


Figure 8: Direct point callup

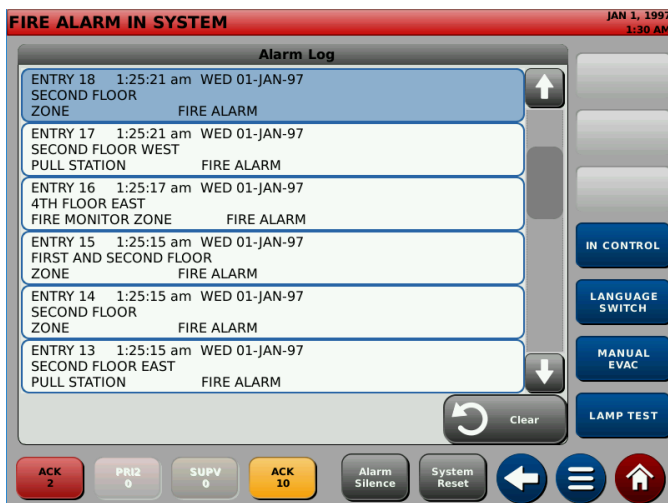


Figure 9: Alarm history log

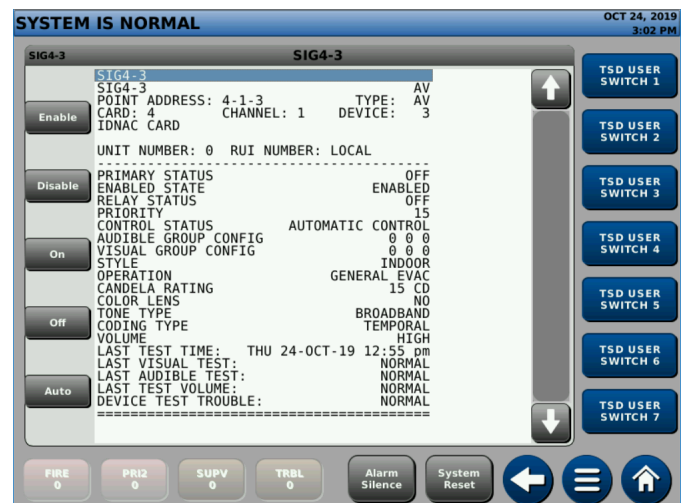


Figure 10: Detailed point status screen for TrueAlert ES appliance

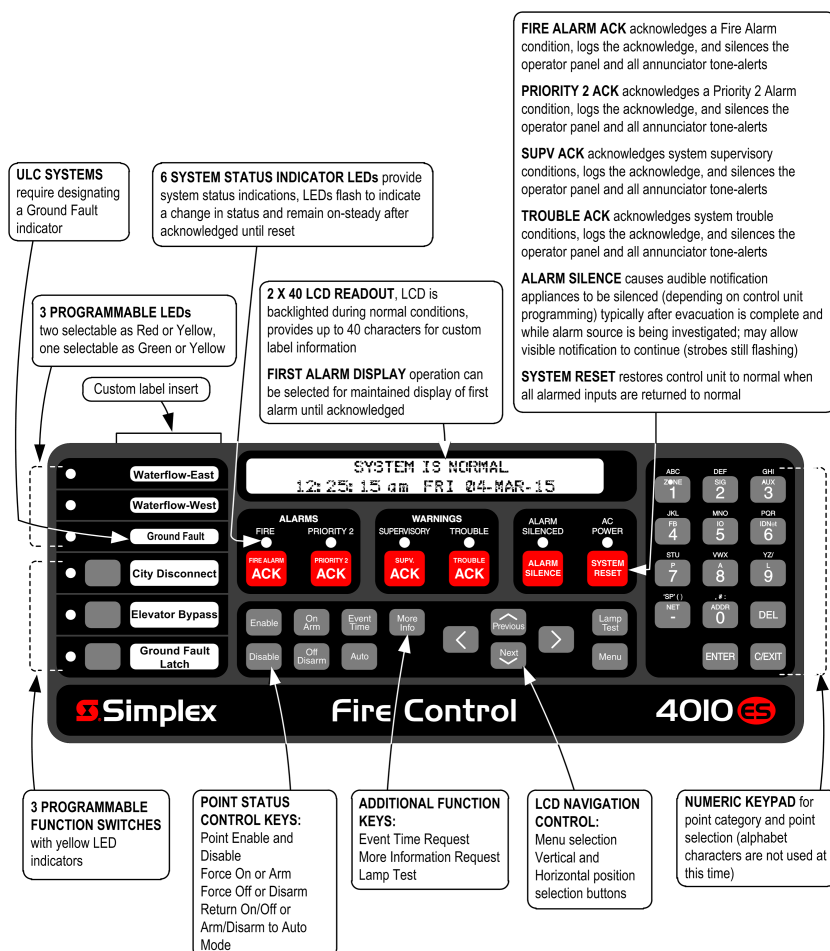
Specifications

Table 2: General ES touch screen display specifications

Specification	Rating
Resolution	800 x 600 pixels (RGB)
Size / Type	8 inch (203 mm) Diagonal / Color Touch Screen
Touch Screen Technology	Resistive
Event Display	Up to 8 Events without scrolling
Normal Screen Custom Watermark File Format	680 x 484 pixels. BMP, JPG, TIFF, GIF or PNG file format
Environmental	Operating Temperature: 32°F to 120°F (0°C to 49°C) Operating Humidity: Up to 93% RH, non-condensing at a maximum of 90°F (32°C).

Operator Interface with Monochrome 2x40 LCD Features

- Provides convenient and extensive operator information using a logical, menu-driven display
- Multiple automatic and manual diagnostics for maintenance reduction
- Convenient PC programmer label editing
- Password access control
- Alarm and Trouble History Logs for up to 2000 total events are available for viewing from the LCD, or capable of being printed to a connected printer, or downloaded to a service computer


Figure 11: Operator interface

Basic control unit model selection, one bay control units

Supervisory and Alarm current specifications are for determining battery standby requirements. Current specifications include an active RUI channel. Models with an IDNet channel include 20 IDNet device LEDs activated in alarm. Models with MX communications include module base current. Actual IDNet or MX channel device current is not included, see [Addressable device load specifications for battery standby](#) for details. For models with 48 LED Annunciation, alarm also includes 24 LEDs activated.

Table 3: Basic control unit model selection, one bay control units

Model	Control unit color	Language and voltage	Listing	Features	Supv. current	Alarm current	Available option blocks
4010-9401 4010-9401BA	Red	English 120 VAC	UL, FM	Basic Control Unit with 2x40 LCD Operator Interface and one two-loop Isolated IDNet2 Communications Channel, Class A or Class B operation, with support for up to 250 addressable IDNet points	316 mA	430 mA	Three 4 in. x 5 in. blocks
4010-9402 4010-9402BA	Platinum	English 120 VAC	UL, FM				
4010-9501 4010-9501BA	Red	English 220 VAC to 240 VAC	UL, FM				
4010-9502 4010-9502BA	Platinum	English 220 VAC to 240 VAC	UL, FM				
4010-9403	Red	English 120 VAC	UL, ULC, FM	Same features as above with 48 LED annunciation	336 mA	495 mA	
4010-9404	Platinum	English 120 VAC	UL, ULC, FM				
4010-9505	Red	English 220 VAC to 240 VAC	UL	Basic Control Unit with 2x40 LCD Operator Interface and (1) ESMX Loop Channel Class A or B with support for up to 250 addressable MX Loop points	364 mA	432 mA	Three 4 in. x 5 in. block

Note: Model numbers ending in BA are assembled in the USA.

Basic control unit model selection, two bay control units

Note: Supervisory and Alarm current specifications are for determining battery standby requirements. Current specifications include an active RUI channel. Models with IDNet channels include 20 IDNet device LEDs activated in alarm for each channel. Models with MX communications include unloaded module current only. Actual IDNet or MX channel device current is not included, see [Addressable device load specifications for battery standby](#) for details.

Table 4: Basic control unit model selection, two bay control units

Model	Control unit color	Language and voltage	Listings	Features	Available option blocks	Supv. current	Alarm current
4010-9421 4010-9421BA	Red	English 120 VAC	UL, FM	Basic Control Unit with 2x40 LCD Operator Interface , one two-loop isolated IDNet2 Communications Channel and one four-loop Isolated IDNet 2+2 Communications Channel Module, Class A or Class B operation, with support for up to 500 addressable IDNet points	Ten 4 in. x 5 in. blocks	391 mA	545 mA
4010-9422 4010-9422BA	Platinum	English 120 VAC	UL, FM				
4010-9423	Red	English 120 VAC	UL, ULC, FM	Same features as above with 48 LED annunciation; alarm current includes 24 annunciator LEDs activated		411 mA	610 mA
4010-9428	Platinum	English 120 VAC	UL, ULC, FM				
4010-9425 4010-9425BA	Red	English 120 VAC	UL, FM	Same as 4010-9421 except with InfoAlarm Operator Interface		473 mA	611 mA
4010-9426 4010-9426BA	Platinum	English 120 VAC	UL, FM				
4010-9435	Red	120 VAC (multiple languages available, contact your local Simplex product supplier for details)	UL, ULC, CSFM	Basic control unit with ES Touch Screen Operator Interface and one two-loop Isolated IDNet2 Communications Channel, one four-loop Isolated IDNet 2+2 Communications Channel Module, Class A or Class B operation, with support for up to 500 addressable IDNet points		486 mA	661 mA
4010-9521 4010-9521BA	Red	English 220 VAC to 240 VAC	UL, FM	Basic Control Unit with 2x40 LCD Operator Interface , one two-loop isolated IDNet2 Communications Channel and one four-loop Isolated IDNet 2+2 Communications Channel Module, Class A or Class B operation, with support for up to 500 addressable IDNet points	391 mA	545 mA	
4010-9522	Platinum	English 220 VAC to 240 VAC	UL, FM				

* Products with suffix “BA” are assembled in the USA.

* Products with suffix "BA" are assembled in the USA.

Addressable device load specifications for battery standby

Table 5: Addressable device load specifications for battery standby

Addressable channel	Device load	Supervisory current	Alarm current
IDNet2 and IDNet 2+2 Channel Device Currents. 20 device LEDs in alarm are included with control unit and module currents See Table 6 for current draw for each IDNet device.	With 50 devices add	40 mA	50 mA
	With 125 devices add	100 mA	125 mA
	With 250 devices add	200 mA	250 mA
ESMX Loop Card	With 250 devices add	1.135 A	1.135 A
25V Regulator for MX Loop	4 A output alarm, 2.5 A standby add	4.68 A	3.0 A
	3.5 A output alarm, 2.0 A standby add	4.2 A	2.4 A
	3.0 A output alarm, 1.5 A standby add	3.6 A	1.8 A
	2.5 A output alarm, 1.0 A standby add	2.87 A	1.2 A
	2.0 A output alarm, 0.5 A standby add	2.4 A	630 mA

Table 6: Current draw for each IDNet device

Condition	Current
Standby	0.8 mA
Alarm, with LED off	1.0 mA
Alarm, with LED on	3.0 mA

Note: A maximum of 20 devices with LED on is supported for each channel. Additional device LEDs do not turn on.

Block space option card selection

Note: Maximum block option module quantities may require two-bay cabinets. One-bay cabinets are limited to three option block spaces total. See Figure 13 for option module availability. Supervisory and Alarm current specifications consider no load on addressable channels except as noted. See [Addressable device load specifications for battery standby](#) for battery standby.

Table 7: Single block option modules

Model	Features	Supervisory current	Alarm current	Option block usage
4010-9912	Serial DACT Note: Must mount in Block D under Main System Supply 2	30 mA	40 mA	One block (must mount in top bay, block D)
4010-9908	4-point Aux Relay Module	15 mA	60 mA	One block (11 maximum)
4010-9916	Voltage Regulator Module, 22.8 VDC to 26.4 VDC (25 VDC nominal); isolated and resettable output; includes earth detection circuit and trouble relay for status monitoring. One 4010-6305 harness, see below, is required for each 4010-9935 module powered from the 4010-9916.	3 A maximum with 2.5 A load	4.9 A maximum with 4 A load	One block (one maximum)
4010-9918	Dual RS-232 Module	60 mA		One block
4010-9915	BACpac Ethernet Portal Module; requires 4010-9918 RS-232 Module, no address required	123 mA		(three maximum)
4010-9901	VESDA HLI	60 mA		One block (one maximum)
4010-9935	8-point zone/relay 4 in. x 5 in. flat module. Supports eight Class B or four Class A IDCs. Mounts in any open block in a master controller or expansion bay. Alarm current shown is for 8 Class B IDCs using 3.3K end-of-line-resistors with 4 in. alarm and 4 in. standby. Standby current shown is for all 8 IDCs in standby. Refer to <i>Zone/Relay Module Installation Instructions 579-1236</i> for additional information.	83 mA	295 mA	One block (11 maximum)
4010-9936	4 DPDT Auxiliary Relays with feedback, contacts rated for 2A Resistive/0.5A Inductive @ 30 VDC or 0.5A Resistive/0.5A Inductive @ 120VAC. See 579-1306 installation instructions for additional information	18 mA	65 mA	One block (11 maximum)

Table 7: Single block option modules

Model	Features		Supervisory current	Alarm current	Option block usage
4100-6305	5 25V regulator harness for 8-point zone/relay module. One required for each 8-point zone/relay module, powered by the 4100-9916 25V regulator module. You can power a maximum of five 8-point zone/relay modules from the 4100-9916 for each bay.		N/A		
4010-9929	IDNet 2+2 Module, 250 point capacity; electrically isolated output with four short circuit isolating Class B or Class A output loops; alarm currents for 50 and above devices includes 20 device LEDs in alarm. See Table 5 for individual device currents.	No device	50 mA	60 mA	One block (three max)
		50 devices	90 mA	150 mA	
		125 devices	150 mA	225 mA	
		250 devices	250 mA	350 mA	

Table 8: Dual vertical block (flat) modules**

Model	Features	Option block Usage	Supervisory current	Alarm
4010-9928	For one bay control units only. Dual Vertical Block Card Mounting Kit, allows selecting two, dual Vertical Block (flat) modules from the list below; mounts at right angle to chassis, note block usage details	Two Vertical Blocks (one max, mounts in top bay, block space A and B only)	N/A	N/A
4010-9923	SafeLINC Internet Interface	2 Vertical Blocks (1 max)	115 mA	115 mA

* UL, ULC, and CSFM Listed.

** For details on other dual vertical block network options refer to data sheets S4100-0029, S4100-0056, S4100-0057, **S4100-0076** , and S4100-0061 .

Table 9: Additional option modules with special option block usage

Model	Features	Option block usage	Supervisory current	Alarm
4010-6311	ESMX Loop Card supports up to 250 points	One 4 in. x 5 in. block	118 mA (no devices)	118 mA (no devices)
4010-6312	ESMX Optional Loop Mezzanine Card	N/A	4 mA (no devices)	4 mA (no devices)

Additional control unit feature selection (block space is not used)

Table 10: Additional control unit features

Model	Features	Supervisory current	Alarm current	Mounting requirements
4010-9909	City Connect Module w/ disconnect switches	20 mA	36 mA	Mounts on Main System Supply (one max)
4010-9910	City Connect Module	20 mA	36 mA	Mounts on Main System Supply (one max)
4010-9911	Alarm Relay Module	15 mA	37 mA	Mounts on Main System Supply (one max)
4100-5128	Battery Distribution Terminal Block, mounts to side of box, required when battery connection leaves the 4010ES box. Also used in the 4100ES fire alarm control unit.			

Network interface and Network Media Card product selection

4010ES fire alarm control units are compatible with Simplex ES Net network or 4120 network fire alarm products.

- Refer to datasheet **S4100-0076** for additional information on compatible ES Net fire alarm products.
- Refer to datasheet **S4100-0056** for additional information on compatible 4120 network fire alarm products.
- Refer to datasheet **S4100-0061** for additional information on the BNIC.

Cabinet dimension reference

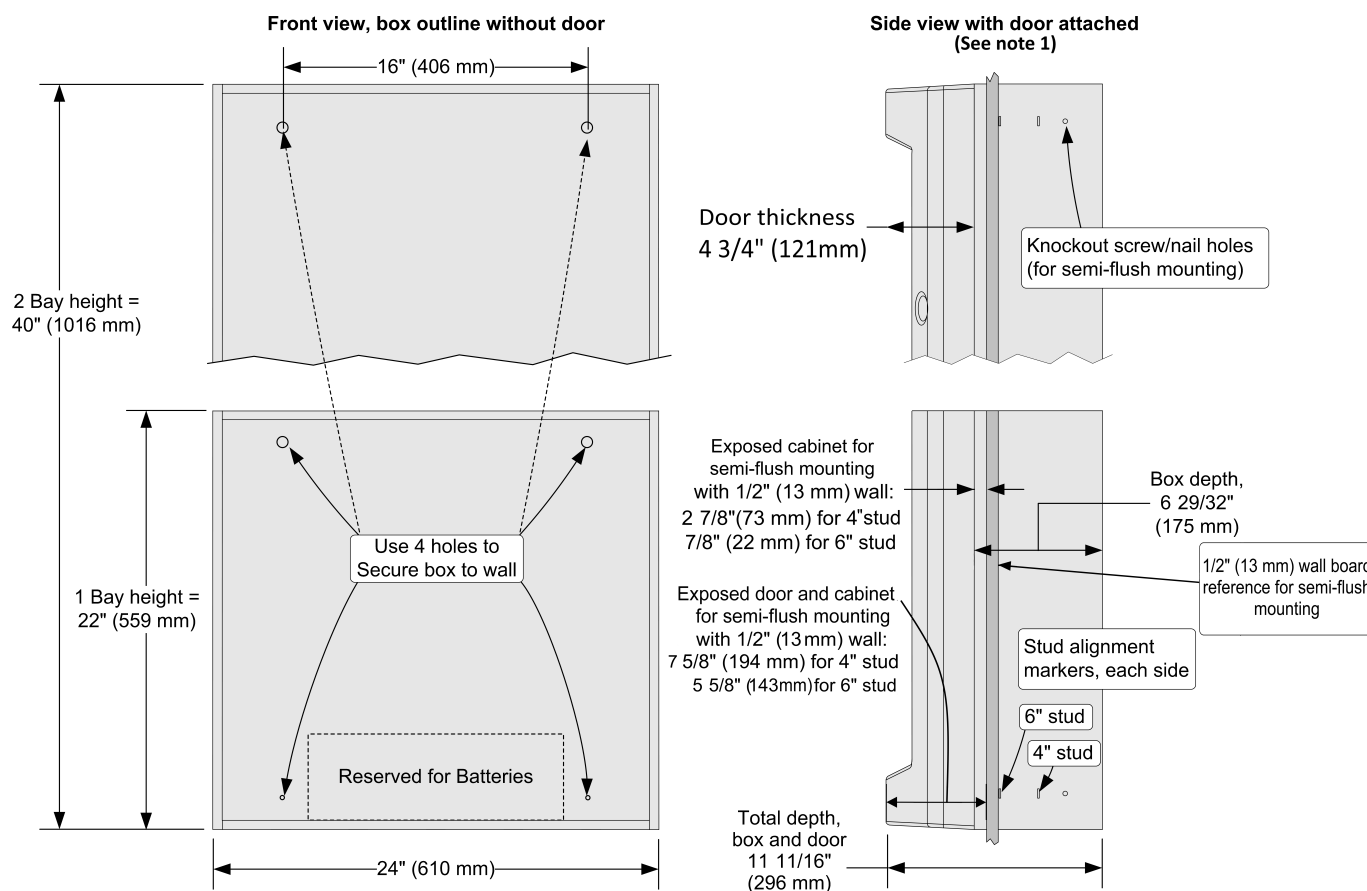


Figure 12: Cabinet dimension reference

Note: Side view dimensions are shown with minimal cabinet and door protrusion from the exterior wall. For 6 in. stud construction with minimum protrusion shown, the door will open 90 degrees. To allow the door to open 180 degrees, the exposed cabinet dimension from the exterior wall must be a minimum of 3 in. (76 mm) for both 4 in. and 6 in. stud construction.

Cabinet one and two bay loading reference

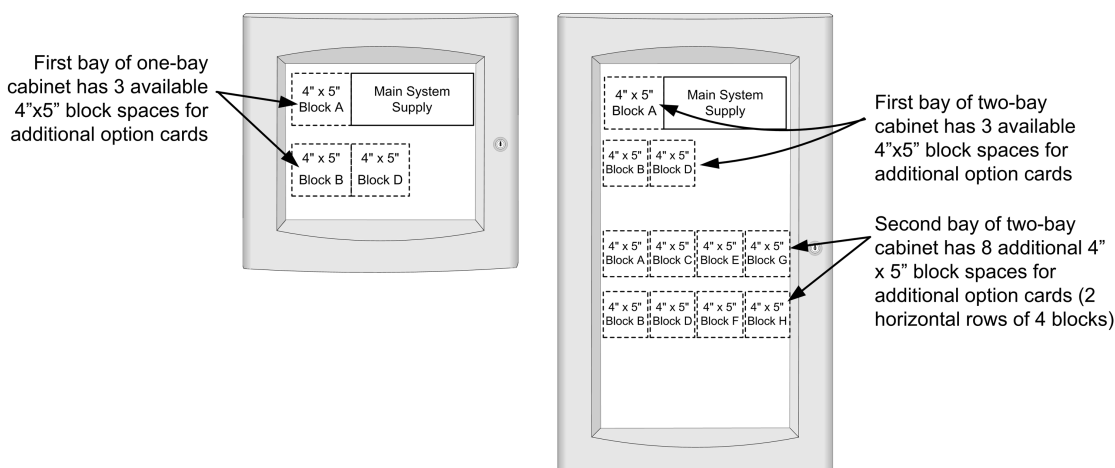


Figure 13: Loading reference

Note: Some spaces may be used by basic control unit features.

Miscellaneous accessories

Table 11: LED kits (LEDs are pluggable, use to change color for local application requirements)

Model	Description
4100-9843	8 Yellow LED Kit
4100-9844	8 Green LED Kit
4100-9845	8 Red LED Kit
4100-9855	8 Blue LED Kit
4100-0650	Battery Shelf, required for 50 Ah batteries in two bay cabinets only
4010-9831	French Applique Kit for ES Touch Screen Display Panels (order separately as required for Canadian French panels)

Table 12: Factory Programming Tools

Model	Description
4010-0831	Custom Labels and Programming (requires 4010-8810)
4010-8810	Factory Programming (select)

General specifications

Table 13: General specifications

Specification	Rating		
AC input current	120 VAC Models	4 A maximum, 120 VAC @ 60 Hz nominal	
	Battery	9 A maximum @ 24 VDC (during battery operation)	
Power supply output ratings (nominal 28 VDC on AC, 24 VDC on battery backup)	Total power supply output rating	Including module currents and auxiliary power outputs; 8 A total for Special Application appliances; 4 A total for Regulated 24 DC power (see below for details)	Output switches to battery backup during mains AC failure or brownout conditions
	Auxiliary power tap	2 A maximum, rated 19.1 VDC to 31.1 VDC	
Special Application appliances, maximum of 70 appliances for each NAC	Simplex 4901, 4903, 4904, and 4906 Series horns, strobes, and combination horn or strobes and speaker or strobes. Contact your Simplex product representative for compatible appliances.		
Regulated 24 DC appliances	Power for other UL listed appliances; use associated external synchronization modules where required		
Battery charger rating (sealed lead acid batteries)	Battery capacity range	See data sheet S2081-0012 for further details.	
	Charger characteristics and performance	Temperature compensated, dual rate, recharges depleted batteries within 48 hours per UL Standard 864; to 70% capacity in 12 hours per ULC Standard S527	
Battery current	9 A maximum @ 24 VDC (during battery operation)		
Environmental	Operating temperature	32°F to 120°F (0°C to 49°C)	
	Operating humidity	Up to 93% RH, non-condensing @ 90°F (32°C) maximum	
Additional technical reference	Installation instructions	579-989	
	Operating instructions	579-969	

4010ES card address allocation

The 4010ES has a maximum internal and external card address limit of 20 card addresses. See Table 14 below to calculate 4010ES card address allocation.

Table 14 is a list of 4010ES equipment and the quantity of card addresses they consume.

1. For the applicable control unit, write in the card address consumption value in the card address allocation column. Select one control unit only.
2. For the option cards to be installed on the 4010ES, write in the Card address consumption value in the card address allocation column.
3. Total the card address allocation column. The total must not exceed 20.

Table 14: Card address allocation

Model	Description	Card address consumption	Card address allocation
Control Units - select one			
4010-9401 4010-9401BA 4010-9402 4010-9402BA 4010-9501 4010-9501BA 4010-9502 4010-9502BA 4010-9505	2x40 Display, (1) IDNet2 Communications Channel; or (1) ESMX Channel, 1-Bay Box	2	
4010-9403 4010-9404	2x40 Display, one IDNet2 Communications Channel, 48 Pluggable LED Module, one bay Box	3	
4010-9423 4010-9428	2x40 Display, one IDNet2 and one IDNet2+2 Communications Channel, 48 Pluggable LED Module, two bay Box	4	
4010-9421 4010-9421BA 4010-9422 4010-9422BA 4010-9521 4010-9521BA 4010-9522	2x40 Display, one IDNet2 Communications Channel and one IDNet 2+2 Communications Channel, 2-Bay Box	3	
4010-9425 4010-9425BA 4010-9426 4010-9426BA	InfoAlarm Display, one IDNet2 and one IDNet 2+2 Communications Channel, 2-Bay Box	4	
4010-9526BA	InfoAlarm Display, (1) IDNet2 Communications Channel, 2-Bay Box	3	
4010-9435	ES Color Touch Screen Display, one IDNet2 Communications Channel and one IDNet 2+2 Communications Channel, 2 Bay Box	4	
Control Unit Option Cards - select as required			
4010-9901	Flat VESDA HLI Card	1	
4010-9922	Flat 4120 Network Interface Card	1	
4010-6310	Flat ES Net Network Interface Card	1	
4010-9908	4 Point Flat Aux Relay Module	1	
4010-9912	Serial DACT	1	
4010-9923	SafeLINC Internet Interface Card	1	
4010-9914	Building Network Interface Card	1	
4010-6311	ESMX Loop Card	1	
4010-6312	ESMX Optional Mezzanine Card	0	
4010-9918	Dual RS-232 Module	1	
4010-9935	8 point zone/relay 4x5" flat module	1	
4010-9929	IDNet 2+2 Communications Module	1	
4010-9936	4-Point Auxiliary Relay Module with feedback	1	
Remote Annunciation - select as required			

Table 14: Card address allocation

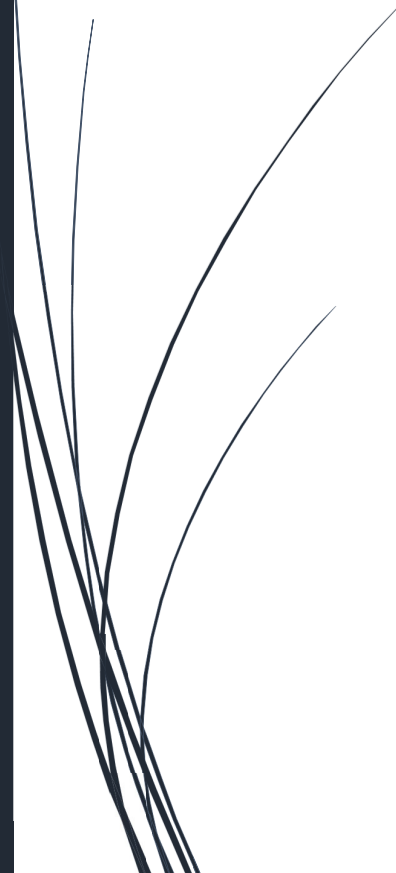
Model	Description		Card address consumption	Card address allocation
4100-9401	Remote InfoAlarm Command Center	Red Cabinet, English	2	
4100-9403		Platinum Cabinet, English	2	
4100-9421		Red Cabinet, French	2	
4100-9423		Platinum Cabinet, French	2	
4100-9441		Red Cabinet, with blank inserts for key labels	2	
4100-9443		Platinum Cabinet, with blank inserts for key labels	2	
4100-9404	Remote ES Touch Screen Display	Red Cabinet	1	
4100-9405		Platinum Cabinet		
4606-9102	4010ES RUI LCD Annunciator, English		1	
4606-9102BA	4010ES RUI LCD Annunciator, English		1	
4606-9102CF	4010ES RUI LCD Annunciator, French		1	
4602-9101	Status Command Unit (SCU) LED Annunciator		1	
4602-9102	Remote Command Unit (RCU) LED Annunciator w/control		1	
4602-9150	Graphic I/O RCU/SCU Assembly for custom annunciator Control Units		1	
4602-7101	Graphic I/O RCU/SCU Assembly for custom annunciator Control Units		1	
4602-7001	RCU for cabinet mount		1	
4602-6001	SCU for cabinet mount		1	
4100-7401	24 Point I/O Graphic Module (requires mounting cabinet)		1	
4100-7402	64/64 LED Switch Controller for custom annunciator Control Units		1	
4100-7403	32 Point LED Driver Module for custom annunciator Control Units		1	
4100-7404	32 Point Switch Input Module for custom annunciator Control Units		1	
	Total card addresses - not to exceed 20		TOTAL	
Note: (BA) means available with or without BA suffix; products with suffix BA are assembled in the USA				

Additional 4010ES and network product reference

Table 15: Additional 4010ES and network product reference

Subject	Data sheet
Serial DACT (SDACT) for 4100ES, 4010ES, 4007ES	S2080-0009
Seismic Battery Brackets Reference	S2081-0019
4003EC Voice Control Unit	S4003-0002
4009 IDNet NAC Extender	S4009-0002
4010ES FACUs with Conventional Notification	S4010-0004
4010ES Extinguishing Release Applications	S4010-0005
4010ES Extinguishing Release Applications (INTL)	S4010-0007
InfoAlarm Command Center for the 4010ES FACUs	S4010-0008
InfoAlarm Command Center for the 4010ES FACUs (INTL)	S4010-0009
4010ES FACUs with Addressable Notification	S4010-0011
4010ES FACUs with Addressable Notification (INTL)	S4010-0012
External 110 Ah Battery Charger for 4100ES, 4010ES	S4081-0002
Graphic I/O Modules for 4100ES, 4010ES, 4007ES	S4100-0005
Interface to VESDA Air Aspiration Detection Systems	S4100-0026
Multiple Signal Fiber Optic Modems for 4120 Networks	S4100-0049
BACpac Ethernet Module	S4100-0051
4120 Network Products and Specifications	S4100-0056
Building Network Interface Card (BNIC)	S4100-0061
SafeLINC Internet Interface	S4100-0062
ES Net Network Products and Specifications	S4100-0076
NDU with ES-PS Power Supplies for 4120 Network	S4100-1036
Remote ES Touch Screen Displays for 4100ES and 4010ES Panels	S4100-1070
NDU with ES-PS Power Supplies for ES Net	S4100-1077
TrueSite Workstation	S4190-0016
TrueSite Incident Commander	S4190-0020
24-Pin Dot Matrix Fire Alarm System Remote Printer	S4190-0027
SCU/RCU Annunciators	S4602-0001
4606-9102 Remote LCD Annunciator	S4606-0002

Graphic System



Description

You can use TrueSite Graphic Annunciators to provide annunciation and status display for Simplex Fire Alarm Networks. The annunciators feature a personal computer based graphical interface with a high resolution, color display.

Features

- Simplex® fire alarm network connected graphical interface
- Color graphical annunciation with capacity for up to 250,000 ES Net® network points or up to 100,000 4120 network points. See [ES Net version compatibility](#) and [4120 version compatibility](#) for additional details.
- You can display fire service annunciation icons and custom alarm and system messages. This can guide emergency responders with critical fire response information, for example HAZMAT locations and contact information
- You can use up to four monitors to display multiple active windows. For example, you can put the alarm list window on one monitor and the graphics window on another
- You can configure coverage zones to highlight areas or zones within a graphics screen. You can use this to indicate the area of activity without zooming in
- You can choose captive or non-captive modes. Captive mode supports dedicated annunciator operation. Non-captive mode supports annunciator operation with other Windows® applications, for example word processing and spreadsheets, where annunciator activity takes precedence.
- Available connections for printers or other compatible systems

Compatibility

- Compatible with Simplex ES Net and 4120 Networks
- Compatible with Windows 7 and Windows 10 Professional or Enterprise operating systems.
- Comark PCs do not currently support Windows 11 but you can use the TSW Server on Windows 11 for BSIU systems or non-listed systems. Full Windows 11 support is coming soon.

Security

- Supports 8 to 16 alphanumeric passwords with configurable lockout for quantity of failed attempts
- Multiple password-controlled operator levels with selectable feature access
- Compatible with McAfee Total protection version 16.0 R48 and Norton 360 Deluxe version at 22.22.7.14.

Logging and reports

- You can log up to 500,000 events. Information is compatible with spreadsheet and database programs for report customization
- You can print events, status and service reports, TrueAlert self-test reports, and graphic screens with a compatible printer. See [Table 21](#) for printing details
- You can view scheduled automatic reports and historical log back up tasks

Listings information

- UL 864 as Fire Alarm Control Unit Annunciator (UOXX.S771)
- UL 2610 as a Commercial Premises Security Alarm Unit (AMQE.S771)
- ULC/ORD-C1076, Proprietary Alarm System Annunciator (APOU7.S771)
- ULC-S527 as Fire Alarm Control Unit Annunciator (UOXX7.S771)

Additional annunciator system features

- You can use the TrueSite Workstation Mobile Client to allow

compatible iOS and Android devices to access system information

- You can export TrueSite Workstation data to XML for report generation and customization
- You can use node name to include a description of the building or area that is associated with a point. This displays in the annunciator views and reports
- You can use the web browser command link to open an external web page or link on a graphic screen, including a webcam
- You can use RAID 1 to create a real-time mirror-image on a secondary hard drive. Operation automatically transitions to the alternate drive on a drive failure without loss of operation. RAID support is available to systems that do not use the backup utility.

Figure 1: TrueSite Graphic Annunciator, shown with optional second monitor and expanded desktop



- You can configure backup utility to automatically backup specified directories, for example TSW job data, to the secondary hard drive. The backup utility is available to systems that do not use RAID.
- You can use WAV sound files to create custom status annunciation with local onboard speakers
- You can display heat sensor temperatures in Fahrenheit or Celsius

Graphic screens details

- You can choose either fixed, docked windows or floatable windows
- You can pan-and-zoom for precise navigation
- You can use auto-jump to jump to a view of a graphic or alarm list at a pre-configured zoom level
- You can create over 30,000 custom field generated and edited graphic screens
- You can import and export graphics screens in multiple formats. Refer to [Graphics screens](#) for details

Additional Fire Alarm Network capabilities

- You can use multiple annunciators as nodes on the same fire alarm network to provide redundant operations for improved survivability
- You can connect to up to seven separate network loops
- You can use graphical diagnostic tools to identify network node and loop status
- Compatible with Information Management Systems (IMS) and Graphic Command Center (GCC) on the same fire alarm network
- You can connect to up to eight 2120 Multiplex systems with the 2120 Multiplex Serial Line Interface (SLI)
- You can use PanelNet Class X, redundancy, with the latest ES Net card firmware when a TSW node is present

Computer and monitor options

- Computers are available as desktop with mouse or touchscreen
- The desktop LCD widescreen, high resolution LED backlit monitors are 24 in. class, 23.8 in. (605 mm) diagonal, are 1920 x 1080 resolution, and are available with or without touchscreen
- The wall mount LCD widescreen, high resolution monitors are 42 in. (1067 mm) diagonal, are 1920 x 1200 resolution, and are available with or without touchscreen
- The rack mount LCD high resolution monitors are 19 in. (483 mm)

* See CSFM Listing 7300 0026:323 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

diagonal with touchscreen and are 1280 x 1024 resolution

Operation

When fire alarm network status changes occur, the screen displays the type and location of the alarm, or other activity, and the appropriate header buttons appear. In the historical log screen, see [Figure 7](#), Fire, Priority 2, Supervisory, and Trouble buttons are shown with an active Trouble indicated.

Sample screens

[Figure 6](#) is representative of historical log screen detail. [Figure 7](#) is representative of a system graphic screen with icons representing the devices of interest. You can configure screen choices in accordance with system preference. However, when using multiple optional monitors, multiple windows can be visible simultaneously for operator convenience.

Ease of operation

With touchscreen monitors, the operator touches the screen area in alarm, or uses the mouse control, to access a more detailed view of the alarmed zone or device. With the proper password access, the operator can acknowledge alarm and trouble conditions, activate signal silence, and perform system reset directly from the workstation screens.

Programmable activity timeout

Programmable activity timeout allows an unattended monitor to revert to the login screen when the configured time expires.

Individual user preferences

The following individual user preferences appear when the user logs in:

Table 1: Individual user preferences

Preference category	Options
Font size	Default or large
Toolbar size	Small or large
Interface Theme	MS Office 2003 or System
Floating window options	Select to show Menu bar or show Tool bar.

Historical log and list details

[Figure 6](#) shows historical log details. The display format is similar to the display for active list items such as the alarm list. You can sort the displayed information on-screen by each category shown. For example: number, time, date, and point name. You can review list information on the screen or print at a local or remote system printer.

Customized response

You can add custom alarm and trouble messages and field edit them to provide operator response assistance. Point specific information, such as hazardous material storage and lists of people to notify, can be automatically or selectively displayed.

Password control

Multiple access levels

Operator access level is determined during log-in. Select functional access to match the training and responsibility of the operator. Operators with additional TrueSite Graphic Annunciator and fire alarm network training may be qualified for access to more detail. For operators who are primarily concerned with immediate facility security, a lower level access provides the information necessary for proper response but does not allow access to areas beyond their training.

Product image reference

Note: Graphics not to scale

Figure 2: 24 in. desktop monitor

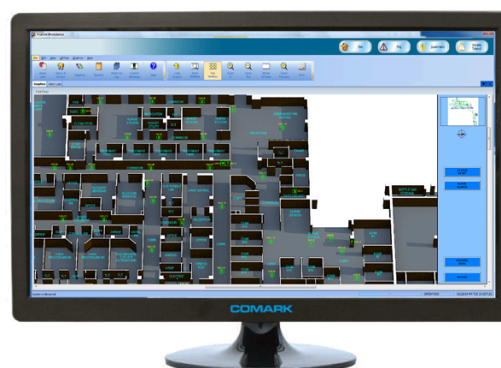


Figure 3: 42 in. monitor

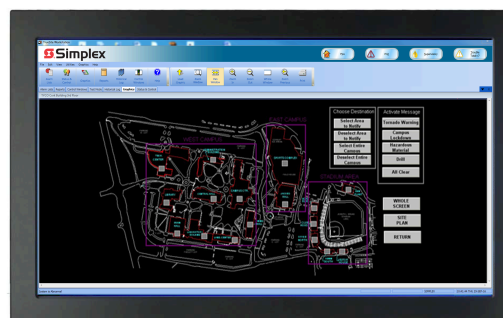


Figure 4: Desktop PC



Figure 5: Rackmount



Graphics screens

Site and floor plan details

Graphics screens can provide easily recognizable site plan and floor plan information. You can customize the level of detail for the specific facility to easily and accurately direct the operator to the immediate area of interest.

Graphic screen controls

The graphic portion of the screen, see [Figure 7](#), is shown as a main screen but you can set it to float and move it to another monitor. You can add icons to identify the location and type of the device of interest. Use the graphics control toolbar, located at the top of the graphic, to pan and zoom for more precise detail. You can add programmable coverage zones with selectable area and zoom level. You can also add a fixed area site plan, key plan, with action buttons and screen locator, see [Figure 7](#). Pan and zoom are tracked by a green rectangle in the key plan.

Custom banner and main screen background

You can customize the banner area, see [Figure 6](#). The bitmap area is 2250 x 68 pixels. You can also customize the main screen background that is viewable before login with a bitmap of up to 1000 x 525 pixels.

Action messages

In addition to screen text or graphic information, the operator can view specific action messages that provide emergency response information and directions. These action messages are easily field edited for local requirements. The appropriate action message would be found in the Acknowledge dialog box, see [Figure 7](#).

Auto-jump to graphics or alarm list

Select whether activity causes a jump to a list format or to the associated graphic screen.

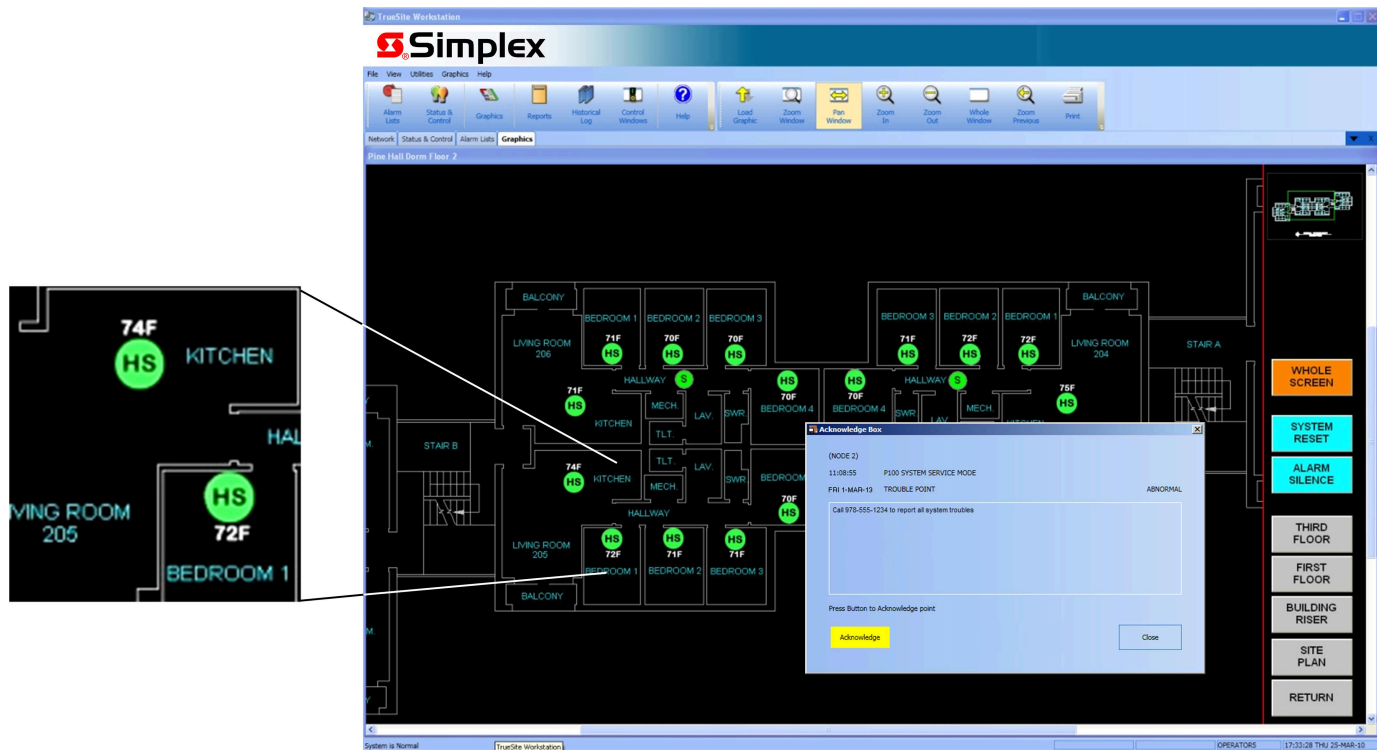
Supported graphics formats:

- DWG Import Formats: AutoCAD R9, 10, 11-12, 13, 14, 2000-2002, 2004-2006, 2007-2009, 2010-2011
- DXF Import Formats: AutoCAD R14 and 2000
- Export Formats: AutoCAD 2000 DWG/DXF format (allows editing in AutoCAD 2000 or later)
- Import drawing files: DWG, WGS, IMS/GCC DOC files, WMF, BMP, GIF, and JPG

Figure 6: TrueSite Workstation sample alarm lists screen

Number	Time	Date	Point Name	Node Name	Event	Detail	Status	Operator	Notes
1	10:02:32	THU 29-SEP-16	P92	(NODE 1)	SYSTEM COLD START	TROUBLE POINT	ABNORMAL		
2	10:02:32	THU 29-SEP-16	P4	(NODE 1)	NET CARD 1 MISSING TROUBLE	TROUBLE POINT	ABNORMAL		
3	10:02:32	THU 29-SEP-16	P5	(NODE 1)	NET CARD 1 FAILED TROUBLE	TROUBLE POINT	ABNORMAL		
4	10:02:37	THU 29-SEP-16	P506	(NODE 1)	MISSING USER DONGLE	TROUBLE POINT	ABNORMAL		
5	10:02:38	THU 29-SEP-16	P510	(NODE 1)	RAID ACTIVITY DETECTED	TROUBLE POINT	ABNORMAL		
6	10:02:38	THU 29-SEP-16	P18	(NODE 1)	USB UL CARD MISSING/FAILED	TROUBLE POINT	ABNORMAL		
7	10:02:45	THU 29-SEP-16	P100	(NODE 1)	SYSTEM SERVICE MODE	TROUBLE POINT	ABNORMAL		

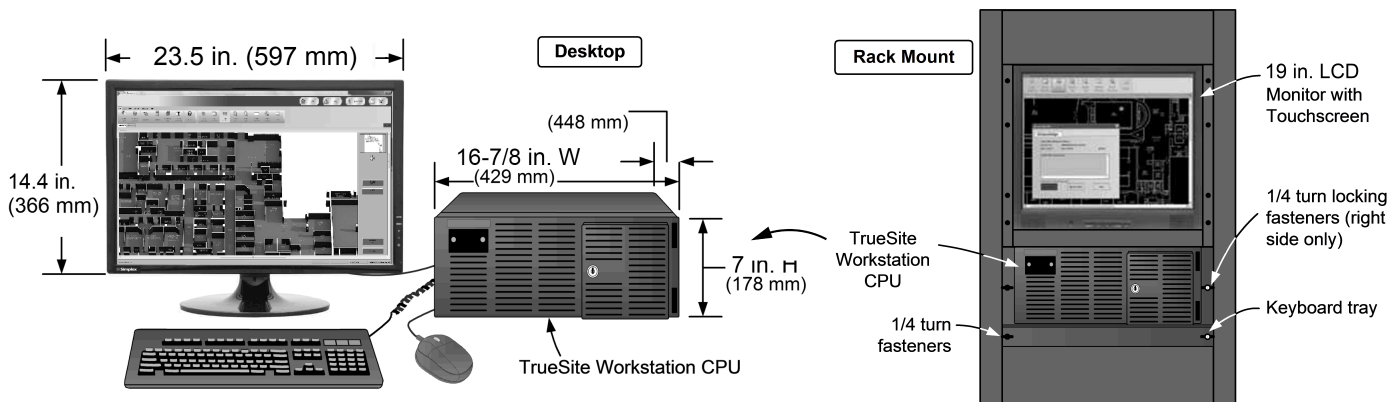
Figure 7: TrueSite Workstation sample graphic screen with detail enlargement and Acknowledge Box



Note: This sample graphic screen demonstrates heat sensors (HS) dynamically displaying their local temperature readings.

Hardware reference with 24 in. desktop monitor and 19 in. rack mount monitor

Figure 8: Hardware example



Network diagnostics

Graphical network status views

Automatic, built-in diagnostics are available to provide graphical views of Network topology and Network status. Missing communications links due to wiring breaks or shorts as well as inactive network nodes are indicated clearly to guide in returning the system to normal. Information screens are available to provide detail about each specific network node. Network level functions such as timekeeper node and monitor node are indicated as well as identification of the node being used for the diagnostic.

Multiple network connections

When extensive network expansion or interconnection of existing separate networks is required, you can connect up to seven network loops in any combination of ES Net and 4120 network loops to the TrueSite TrueSite Graphic Annunciator. Each network loop is connected to its own network interface module allowing the workstation to appear as a node in each individual loop.

With a multi-loop network connection, the TrueSite Graphic Annunciator is a node member of each network loop with up to 98 additional nodes for each loop. This allows up to 686 total nodes and the TrueSite Graphic Annunciator, 687 total, to be interconnected.

4120 version compatibility

4120 network product compatibility with TrueSite Graphic Annunciator requires the following software versions:

Table 2: Fire Alarm Network Interface

Network Interface	Compatibility
4190 GCC/IMS/NPU	Master Version 2.07 or later
4100U	Master Version 11.03 or later
4100	Master Version 9.02 or later
4020	Master Version 9.02 or later
4010	Master Version 3.01 or later
4002	Network Firmware Version 3.02.92 or later
2120 (SLI) Interface	
2120	Master Version 5.44 or later, Network Interface Version 3.02 or later

Note:

1. TSW 100,000 4120 network point capacity requires TSW version 3.04, or higher, and ES panels at version 3.03.04, or higher.
2. TSW supports up to 100,000 points from ES series panels on 4120 networks or DACR points only.
3. Other legacy 4000 series panels are limited to a capacity of 62,500 points on the TSW. You can mix with ES series panels reporting above the 62,500 point range.
4. A TSW with a 2120 SLI interface is limited to 62,500 points for the entire system, including ES series panels and DACR points.

ES Net version compatibility

ES Net product compatibility with TrueSite Graphic Annunciator requires the following software versions:

Table 3: ES Net software requirements

Software	Required software version
Network Programmer	2.04 or later
ES Programmer	6.01 or later
TrueSite Workstation	6.01 or later
TrueSite Incident Commander	6.01 or later

Table 4: ES Net firmware requirements

Component	Required firmware version
4100ES panel	6.01 or later
4010ES panel	6.01 or later
4007ES panel	6.01 or later
ES Net NIC Application	1.04
ES Net NIC EOS	1.04

Note:

1. TSW 250,000 ES Net network point capacity requires TSW version 6.01, or later, and ES panels at version 5.03, or later.
2. TSW supports up to 250,000 points from ES series panels on ES networks or DACR points only. The maximum points supported from 4120 networks is 100,000 points.
3. Where TSW supports both ES Net and 4120 network loops, the maximum TSW point capacities are as follows:
 - a. Up to 250,000 ES Net network points and DACR points combined.
 - b. Up to 100,000 4120 network points. See notes in for additional information.
 - c. The combination of ES Net, DACR, and 4120 points are not to exceed 250,000 TSW points total.

Multi-Loop operation features

Improved survivability

- Individual network loops operate independently
- In the event of loss of one or more loops, remaining loops continue to operate

Loop independence

You can add new loops without affecting existing loops.

Assistance with phased-in system expansion

- You can install each loop as a stand-alone network allowing local node programming to evolve as required
- When construction or renovation reaches completion, you can combine loops for coordinated facility protection

Multi-loop requirements

- Each loop requires a dedicated Network Interface Card
- Supports up to seven network loops in any combination of ES Net and 4120 network loops maximum

Product selection

Table 5: Hardware systems

Model	Description
4190-8406	TrueSite Graphic Annunciator For status annunciation only, does not provide control capability. Requires selection of computer, monitor, and software from Table 6
Note: 1. Requires selection of computer type from Table 7 , and applications software from Table 9 . 2. LAN connections require Transient Suppressor, see Table 12 for details.	

Table 6: Software only and aftermarket additions

Model	Description
4190-8606	TrueSite Graphic Annunciator Software Only package. Refer to Table 20 for computer specifications reference, listings and approvals are not applicable. Note: Windows operating system is not provided. For software only packages purchase operating system locally as required.
4190-8901	Aftermarket hardware addition
4190-8605	Aftermarket software addition

Table 7: Computer type, select one as required

Model	Description
4190-7041 4190-7043	Desktop Computer with Intel® i7 6th Gen, 3.4 GHz CPU, 8 MB Cache, 32 GB RAM, a minimum of two 1TB Hard Drives, USB ULIO card, DVD R/W, integral audio and amplified speakers, onboard video for up to two displays one SVGA and one DVI, two RS-232 Serial ports, seven USB ports, two Gigabit LAN ports, Passive backplane with eight PCI, three PCIe x 1 and one PCIe x 16 slot, USB keyboard and mouse, charcoal grey housing. Computers are pre-installed with Windows 10 Enterprise 64 bit, including software package and license, and TrueSite Workstation software. 4190-7041 is configured with a file backup utility and no RAID controller, 4190-7043 is configured with RAID 1 data mirroring and no file backup utility.

Table 8: LCD color monitor

	Model	Size, Diagonal	Description	
Monitor Only	4190-7132	23.8 in. (605 mm)	LCD Monitor for desktop applications	Select one minimum, four maximum, as required per computer choice. Connect as SVGA or DVI, both cables are included. Touchscreen models include separate serial controller cable, black or charcoal grey housings. For 3 or 4 monitors select 4190-6049 Dual Video Card.
	4190-7114	42 in. (1049 mm)	LCD Monitor for horizontal wall mount applications	
Monitor with Touchscreen	4190-7233	21.5 in. (546 mm)	Desktop	
	4190-7235	23.8 in. (605 mm)	Desktop	
	4190-7234	18.5 in. (470 mm)	Rack Mount	
	4190-7214	42 in. (1049 mm)	Wall Mount	

Table 9: Applications software, select one per application

Model	Description
4190-5055	TrueSite Graphic Annunciator Software. Requires selection of 4190-8406 or 4190-8606
4190-5063	TrueSite Incident Commander Graphic Annunciator to TrueSite Incident Commander Workstation Upgrade. Upgrades TrueSite Incident Commander Graphic Annunciator to full TrueSite Incident Commander control capability. It requires 4190-8605. Note: Refer to data sheets S4190-0020 and S4190-0016 for additional control capability information and other options available with this selection for more information.

Table 10: Software feature option

Model	
4190-5067	TrueSite Workstation Mobile Client Feature. Quantity of one, enables TrueSite Graphic Annunciator information to be accessed from compatible mobile devices. Access for mobile clients is enabled by entering an authorized feature code at the server. See data sheet S4190-0024 for more information
4190-5068	ES Net Supplemental Traffic feature. Enables support of supplemental traffic for TrueSite Workstation and allows for remote client connections to TSW from any nodes on the ES Net network. Note: Available only if Control Operations (4190-5063) is added. For further information regarding supplemental traffic, refer to data sheet <i>ES Net Network Applications, Communications, Options and Specifications (S4100-0076)</i> .

Table 11: Internal hardware options, select as required

Model	Description
4190-6034	Quad RS-232 Serial Port Card, select when more than two serial ports are required; may be needed for 2120 SLI connections; PCI Slot card with pluggable terminal block output; up to 2 maximum; one 4190-6026 suppressor is required per connection (see below)
4190-6049	Dual Video Card for 64 Bit Operating System, PCIe x 16 Slot, 2 DVI outputs; select one for support of 3 or 4 monitors; Note: Dual monitor support is standard; onboard video is used for first two monitors, use optional 4190-6049 video card for monitors 3 and 4

Table 12: Transient suppressed connectors, select as required

Specification	Rating
4190-6002	Transient Protected Connector, select one per connection to a standard RS-232 serial port
4190-6026	Transient Protected Connector for Quad Serial Port Card; one required per connection
4190-6010	Transient Suppressor for LAN/WAN connection. Required for agency listing for each TrueSite Graphic Annunciator LAN/WAN connection

TrueSite Incident Commander Network product selection

4120 network options

Note: For additional information on 4120 Networks and 4120 network product specifications see data sheet *4120 Network Applications, Communications, Options and Specifications (S4100-0056)*.

Table 13: 4120 network options

Option	Aftermarket	Description	Size	Alarm/Supv.
Network Interface Modules, 7 maximum	4190-9829	Modular network interface card, select media modules separately, listed in the following rows. PCI slot card, supports Class B or Class X operation	1 PCI slot	46 mA
Media Modules for Modular Network Interface, as required	4190-9822	Wired Media	Mounts on 4190-6061 or 4190-9829	55 mA
	4190-9851	Left port, single-mode 4120 duplex fiber media card	modular network interface card, up to 2 media cards per network interface card.	55 mA
	4190-9852	Right port, single-mode 4120 duplex fiber media card	Maximum of 1 left port and 1 right port duplex fiber media card per modular network interface card. Field connections require left port to right port pairing. Order fiber media service kits for retrofit jobs where ST connectors are already installed. Refer to data sheet S4100-0056 for full fiber media module specifications and retrofit information.	55 mA
	4190-9853	Left port, multi-mode 4120 duplex fiber media card		55 mA
	4190-9854	Right port, multi-mode 4120 duplex fiber media card		55 mA

ES Net network options

Note: For additional information on ES Net networks and ES Net network product specifications see data sheet *Addressable Fire Detection and Control Basic Panel Modules and Accessories (S4100-0076)*.

Table 14: ES Net external NIC for TSW product selection

Model	Enclosure	Description	Power	Size	Alarm/Supv.
4190-9832	Red	Connects a TSW or Incident Commander to an ES Net loop. ES panel network supports Class B or Class X operation, TSW connections are Class B. Includes four built in Ethernet ports, supports one additional media card. Ports A and C have earth fault detection.	120/240 VAC	Wall mount enclosure measures 10 in. x 10 in. x 2.5 in.	120 mA
4190-9833	Platinum		120/240 VAC		
4190-9834	Red		24 VDC		
4190-9835	Platinum		24 VDC		

Table 15: ES Net NIC cards for 4100ES or TrueSite Workstation

Model	Card type	Description	Size	Alarm/Supv.
4100-6104	Slot - install to a single slot in a 4100ES bay	Mounts in 4100ES cabinet. Connects a 4100ES FACU, TrueSite Workstation, or Incident Commander to an ES Net Network. Supports Class B or Class X operation. Includes four built in Ethernet ports, install to a single slot in a 4100ES bay. Supports up to two additional media cards. Ports A and C can be configured for earth fault detection.	One slot of a 4100ES bay	120 mA
4100-6310	Flat - install to any (2) vertical block space in a 4100ES bay		2 vertical blocks	

Note:

1. Network interface cards include built-in Ethernet network communication ports, order optional media cards as required.
2. TrueSite Workstation connection is Class B, for Class X networks TSW connection must be 20 ft (6 M) maximum in conduit.
3. For TSW or Incident Commander UL 1610 Central Station Burglar Alarm Control Unit applications use the 4190 series External NIC.

Note: TrueSite workstation connection is Class B, for Class X networks TSW connection must be 20 ft (6 M) maximum in conduit. Network interface cards include built-in Ethernet network communication ports, order optional media cards as required.

Table 16: ES Net dual channel media modules for external NIC and 4100ES NICs

Model	Media card type	Description	Size	Alarm/Supv.
4190-9856	ES Net NIC dual channel Ethernet media card	Select per network-connection requirements; mounts on the supplied ES NICs; one media card per external NIC network interface card. Dual Channel Media Cards provide 2 ports for input and output connections.	N/A	20 mA
4190-9858	ES Net NIC dual channel single-mode fiber media card	Field connections require proper port pairing, refer to <i>579-1258 ES Net Dual Channel Fiber, Ethernet, and DSL Media Card Installation Instructions</i> for additional information.	N/A	135 mA
4190-9859	ES Net NIC dual channel multi-mode fiber media card		N/A	135 mA
4190-9857	ES Net NIC dual channel DSL media card		N/A	155 mA

Table 17: Fire Alarm Ethernet Switch

Model	Type	Description
4190-6050	Eight wired Ethernet connections	Fire Alarm Ethernet Switch, 24 VDC, red cabinet; with Earth Detection on wired connections UL 864 and ULC S527. Note: Each server and client LAN connection requires a 4190-6010 Transient Suppressor, except for server to client connections when both are in the same room; see below for suppressor details; Ethernet Switch power shall be provided by a listed fire alarm power supply; see data sheet S4190-0018 for more information.
4190-6054	Four wired Ethernet connections and two single-mode fiber optic connections	
4190-6055	Four wired Ethernet connections and two multi-mode fiber optic connections	

TrueSite Graphic Annunciator equipment specifications

Table 18: Computers and accessories, see note

Model	Description	Dimensions	AC power input*
4190-7026 4190-7028	Desktop Computer	16 7/8 in. W x 7 in. H x 17 5/8 in. D (429 mm x 178 mm x 448 mm)	2 A @ 120 VAC, 60 Hz (240 W) Operating Range: 95-132 VAC; 180-264 VAC, auto-range; 50/60 Hz

Note:

1. Equipment and specifications may vary due to equipment design changes
2. Products are Agency listed for 120 VAC. Computers and monitors are shipped with 120 VAC cord, NEMA 5-15P plug to IEC-320 C-13 connector. For use with other voltages, locally obtain a cord in compliance with local safety standards.

Table 19: LCD monitors, see note

Model	Description	Dimensions	AC power input, see note
4190-7233	21.5 in. desktop with touchscreen	20 3/16 in. W x 15 in. H x 8 11/16 in. D (513 mm x 381 mm x 221 mm)	0.4 A @ 120 VAC, 60 Hz (48 W) Operating Range: 100-240 VAC, 50/60 Hz
4190-7132	24 in. desktop	23.5 in. W x 14.4 in. H x 1.6 in. D (597 mm x 366 mm x 42 mm)	DC 12V, comes with external AC-DC Adapter (90-264VAC 50/60Hz)
4190-7235	24 in. desktop with touchscreen	23.5 in. W x 14.4 in. H x 1.6 in. D (597 mm x 366 mm x 42 mm)	

Table 19: LCD monitors, see note

Model	Description	Dimensions	AC power input, see note
4190-7234	18.5 in. Rack Mount with Touchscreen	17 3/4 in. W x 11 1/16 in. H x 2.022 in. D (451 mm x 281 mm x 51.4 mm)	1.5 A @ 120 VAC, 60 Hz Operating Range: 100-240 VAC, 50/60 Hz
4190-7114	42 in. Horizontal Wall Mount	41 5/16 in. W x 25 1/4 in. H x 5 in. D (1049 mm x 641 mm x 127 mm)	2.02 A @ 120 VAC, 60 Hz (243 W)
4190-7214	42 in. Horizontal Wall Mount with Touchscreen		Operating Range: 100-240 VAC, 50/60 Hz
Note: 1. Equipment and specifications may vary due to equipment design changes 2. Products are Agency listed for 120 VAC. Computers and monitors are shipped with 120 VAC cord, NEMA 5-15P plug to IEC-320 C-13 connector. For use with other voltages, locally obtain a cord in compliance with local safety standards.			

Table 20: Computer minimum specifications reference, see note

Specification	Rating
Enclosure, see note	Passive backplane with: 7 PCI slots and 1 CPU slot; security features: key lock reset switch; fan monitor card; locked door protecting access to the CD/DVD R/W drives and one front mounted USB port
Computer, see note	Compatible with Microsoft Windows 10 32 and 64 bit operating systems, see page 1 for specific operating system compatibility, Intel i7 2.4 GHz CPU, or Core 2 Duo 2.1 GHz CPU, 8 GB RAM, 160 GB minimum hard drive; 2 Serial ports, 1 Parallel port, 4 USB ports, dual Gigabit LAN ports, USB keyboard and mouse; SVGA video output with 16 MB VRAM, CD/DVD Drive, PCI and ISA slots, as required, integral audio and amplified speakers, additional ports as required for custom features. For example: USB, Serial, Parallel
Note: Simplex 4190 Series computers are Agency listed for use with TrueSite Graphic Annunciator software. For applications where Agency listings are not required, TrueSite Graphic Annunciator software should be compatible with most computers meeting the stated minimum specifications. However, due to computer manufacturers potentially using unique or proprietary drivers, hardware, or other software not tested with TrueSite Graphic Annunciator software, there may be incompatibilities. If other computers are used, proper operation with TrueSite Graphic Annunciator software may require technical adjustments by a qualified computer technician and would be the sole responsibility of the computer supplier and computer manufacturer.	

Table 21: Computer port reference, 4190-7026, 4190-7028

Specification	Rating
RS-232 Serial Ports	Two standard, up to 9 total with optional 4190-6034 Quad Serial Port Card
USB Serial Ports	Seven total; five in the rear and two in the front behind the locked door
Ethernet Ports	Two Ethernet ports and one Parallel port
Event Printing, see note in Table 22	For agency listed Proprietary Supervising Station operation and for other operations, if an event printer is required, a supervised and dedicated Simplex Model 4190-9027 agency listed dot matrix printer is recommended. The connection is to USB or Serial RS-232 Port of the Server PC, refer to data sheet S4190-0027 for printer details.
Other Printing, see note in Table 22	For report, screen, or graphics printing, a Windows compatible printer can be used. Connection can be USB, Serial RS-232, or LAN/WAN connection via Ethernet
Printable Information	Event printing, with supervised and dedicated dot matrix printer 4190-9027 as explained above
	Auto-print of auto-jump graphics; prints to Windows default printer
	Reports: Historical logs, System Activity, TrueAlarm Status, TrueAlarm Service, TrueAlert Self-Test, Analog Monitor ZAM Calibration, and Active List; displayed reports can print to a LAN connected, unsupervised printer
	Screen captures, configurable as negative images to reverse black backgrounds

Table 22: Environmental specifications

Specification	Rating
Operating temperature	32 °F to 120 °F (0 °C to 49 °C)
Operating humidity	Up to 93% RH, non-condensing, at 90 °F (32 °C)
Note: Parallel port printer connection is supported on 32-bit operating systems only.	

Anti-virus software

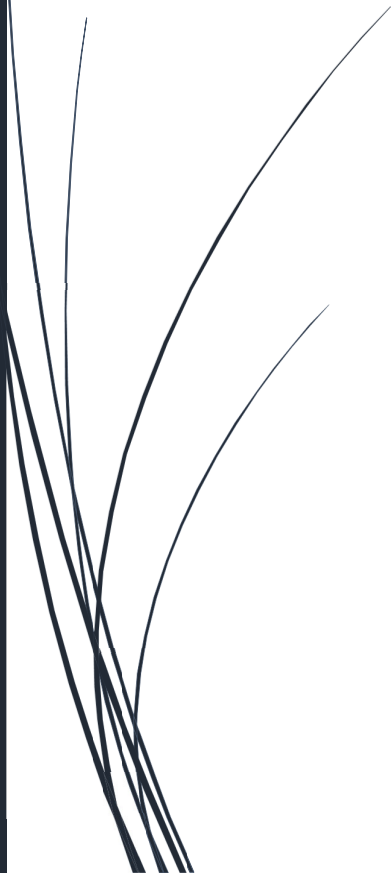
When the TrueSite Graphic Annunciator is connected to a TCP/IP network other than a dedicated Fire Alarm network, it is highly recommended that regularly updated anti-virus software protection be installed on each connected computer. The TrueSite Graphic Annunciator is compatible with McAfee Total protection version 16.0 R48 and Norton 360 Deluxe version at 22.22.7.14.

Additional network product reference

Table 23: Additional network product reference

Subject	Data Sheet
4100ES Basic Panels with SPS Power Supplies	S4100-0031
4120 Network Products and Specifications	S4100-0056
ES Net Network Products and Specifications	S4100-0076
4100ES Basic Panels with EPS Power Supplies	S4100-0100
Fire Alarm Ethernet Switches for TrueSite Workstation	S4190-0018
TrueSite Incident Commander Graphic Annunciator	S4190-0023
Mobile Client for TrueSite Graphic Annunciator	S4190-0025

AUTO DAILER

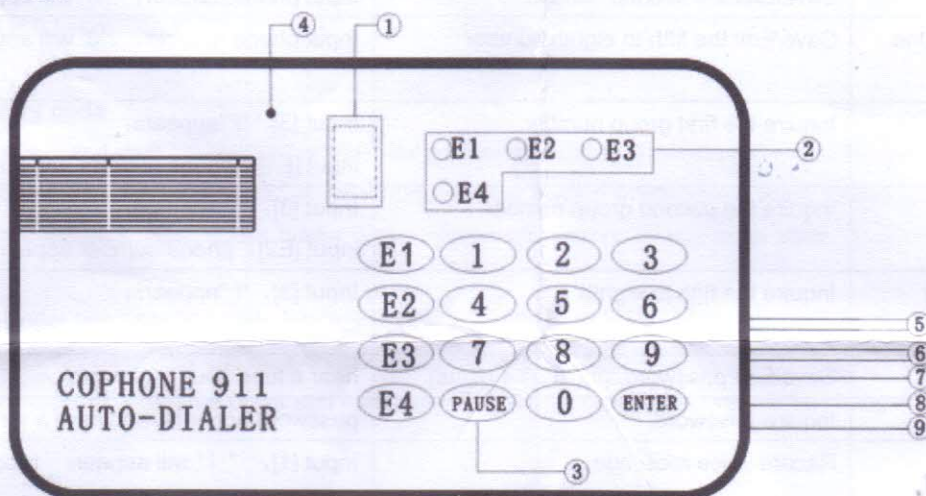


PSTN AUTO-DIALER
Microcomputer Auto Alarm Dialer
CO-911 series

1. Electrical Characteristic

- Operating voltage: DC10~15V.
- Static current: 10mA (operating voltage DC12V).
- Operating current: 30mA (MAX) (operating voltage DC12V).
- Dialing means: PSTN cable network, DTMF dialing.
- Triggering mode: N.C, N.O and voltage signal. 3 selectable triggering dialing alarm means.
- Record time: 40secs, phone numbers and voice record will be saved even if it's powered off.
- Phone numbers: can preset 4 or 8 groups, 16 digits for one group at most.
- Password protection: 4-digit private code can withdraw alarm and program.
- Initial password: 0911.
- Support voice alarm.

2. External view



Note: If the dialer you chose is 8 group of numbers storage one, there are four more buttons from "E5" to "E8" settled in this surface.

The model type is CO-911-8. (Operation is the same with CO-911-4)

(1) LED display, display the number input while save phone numbers.

(2) Indicators for phone numbers

E1 indicator: on while set E1 phone/mobile phone numbers.

E2 indicator: on while set E2 phone/mobile phone numbers.

E3 indicator: on while set E3 phone/mobile phone numbers.

E4 indicator: on while set E4 phone/mobile phone numbers.

Note: E1, E2, E3, E4 indicators ON while setting password.

(3) "PAUSE" key has following functions:

(a) Save 4 digits password (Press "PAUSE" when entered programming mode, then enter 4 digit password, and press "ENTER").

(b) While used for SPC telephone central exchanges system, can take it as pause button.

Press one time: 2s, two times: 4s, and so on. Automatically dial to branch phone with the function.

(4) Microphone

(5) Two GREEN color wire as Telephone line output, to connect with telephone, positive and negative are same.

(6) Two BLUE color wire as Telephone line external line input, positive and negative are same.

(7) RED wire as power positive electrode.

(8) BLACK wire as power negative electrode.

(8) (9) Signal triggering line: Regardless electrodes while connected to N.O or N.C joint; While used for 12V voltage input, wire **yellow** cable to positive voltage.

3.Operation procedures

Enter self testing after starts up, and then enter working state, decimal point on the lower right corner of LED monitor flashes. If alarm information is saved, AUTO-DIALER will make alarm as soon as receives alarm signal. If user wants to program or update set, please preset and inquire phone numbers, code/password, record and play record on the following steps:

(1) Enter programming state

Press "PAUSE"→password (4 digits) →ENTER

Note: Initial code/password: 0911

For example: Operation for enter programming before password saved is as followings: "PAUSE"→0911→ENTER. If code input is correct, "S" will display and enter programming state, if code input is incorrect, "E" will appear means error and return to running state. Input again following the above steps.

(2) Save the 1st group numbers

Under programming state ("S" displayed):

(a) Example: number is 28055551, operation: E1→28055551→ENTER. Start store number when the "ENTER" input in. If "0" displayed means a correct input, and then return to state "S". User can input it again in state "S".

Operation for deleting the 1st group number is: E1→ENTER.

(b) If alarm to voice automatic answer center first and not transferred by operator but turn to branch phone, suppose branch phone number is 12, save operation is: E1→28055551→P→12→ENTER

(c) Hold 2s press one "P", press 2 times hold 4s (operation for save the 2nd 3rd 4th 5th 6th 7th and 8th group number is the same with the 1st)

(3) Inquire the numbers saved

Under programming state ("S" displayed), pulse "3", "C" will display (means CHECK) and then pulse E1/E2/E3/E4/E5/E6/E7/E8, or "PAUSE", numbers will display. Operation: "3"→E1/E2/E3/E4/E5/E6/E7/E8 or "PAUSE"→display numbers saved, and hear a "Du" voice after display.

(4) Save and play alarm voice

(a) CO-911 can save 40secs voice record. Under programming state ("S" displayed), pulse "1" (" I " displayed means RECORD, begin record. Operation steps: "1"→start talking, record→hear a "Du" voice (finish record and stop automatically when time over)

(b) Play alarm voice: Under programming state ("S" displayed), pulse "3" and then "2" ("P" displayed means PLAY, play recorded voice. Operation steps: "3" "2"→play the record →hear a "Du" voice (stop automatically after play over)

(5) Selectable alarm means and times

3 selectable triggering dialing alarm means. Under programming state "S", operate as following:

(a) After triggering, circling dialing 1-9 times to the saved E1~E4 numbers and then automatically stop. (Initial setting: 5 turns)
Operation: "6" "1"→choose circling times:1/2/3/4/5/6/7/8/9→ENTER. Note: Pulse "6" (monitor display "L", means load), "-displayed means choosing the 1st kind dialing alarm means when pulse "1".

(b) after triggering, circling dialing unstop following E1~E4 sequence, until triggering signal reset to original state and stop automatically.
Operation: "6" "2"→ENTER. (Monitor display "=", means to choose the 2nd alarm means)

(c) After triggering, circling dialing persistently following E1→E8 sequence, until stop by inputting password, operation: "6" "3"→ENTER.
(Monitor displays "≡" while pulse "3", means choose 3rd type dialing alarm.

★Note:

(1) The above alarm means can choose one only, but If "1"/"2"/"3" is not chosen after pulsing "6", and directly pulse "ENTER". The above operation will make system return to producing default set (The 1st dialing means: circulate 5 turns)

(2) After triggering (in alarm state):

In case (a) above, automatically stop after finish dialing.

In case (b) and (c) above, continuous dialing, If user want to stop dialing, just input password.

(3) Please remove alarm host (alarm panel) alarm before stop dialer dialing.

(6) Triggering method

3 selectable triggering method, Under programming state "S", operate as following:

(a) Set as 12Vdc voltage trigger (factory default), operation: "4" "1" → ENTER. (Monitor displays "O" means

Succeed, then display "S".)

(b) Set as N.O. trigger, operation: "4" "2" → ENTER. (Monitor displays "O" means succeed, then display "S".)

(c) Set as N.C. trigger, operation: "4" "3" → ENTER. (Monitor displays "O" means succeed, then display "S".)

(d) Inquiry triggering method, operation: "3" "4" will display triggering method code, finished display will sound "du".

(7) Triggering signal length

Under programming state "S", operate as following

(a) Set triggering signal length: operation: "7" "0/1/2/3/4/5/6/7/8/9" → ENTER. (Monitor displays "O" means Succeed,

then display "S". 0=0.5secs, 1=1secs, 2=2secs, ... 9=9secs).

(b) Inquiry triggering signal, operation: "3" "7" will display triggering signal length code, finished display will sound "du".

(c) Factory default is 0.5secs

(8) Save and inquiry code

(a) **Save code/password:** 4-digit private password (Initial password is 0911). If private code is 1234, operations in programming state (in state "S"): press "PAUSE" → "1" "2" "3" "4" → ENTER and hear a voice which means finish input.

Note: private code must be 4 digits, if less than 4 digits, system will display "E" and enter state "S". User can input it following the above procedures.

(b) **Inquire code:** Under programming state (state "S"), press "3" and then "PAUSE", monitor will display code. Operation steps:

"3" → "PAUSE" → display password and hear a voice "Du" after display over.

(c) **If user forget password:** Open the cover and then pulse "RESET" in picture 1. Code will be changed to the initial one: 0911, but voice short message will not lose.

(9) Restore to factory initial setting

Under programming state ("S" displayed), pulse "8", and then input "911" → ENTER. If "0" displayed means operation successfully, and then return to state "S".

(10) Matters needing attention

(a) For the above operations, if user want to change the setting. Only need to operate the same procedures to save the new setting under programming state (state "S").

(b) Pulse "ENTER" to return to working state after finish operation. If "ENTER" is not pressed and monitor display "S" (programming state) still, it will fail to trigger.

(11) Firmware upgrade

The firmware of voice dialer can be upgraded through PC software, pulse "9", display "F", then pulse "8", display blinking "三", means entered firmware upgrade mode. Please use data cable connect with PC, use PC software to upgrade firmware and after finished upgradation, please reboot the voice dialer.

Note: Firmware upgrade guidance please check software guidance.

(12) Stop alarm dialing

AUTO-DIALER will automatically alarm to the preset numbers while triggered. If user wants to stop alarm dialing, input private code while "□" displayed. Suppose code is 1234, "1234" will be displayed after input. If code is correct, alarm will be withdrawn after hear "Du..." sounds. For example; code is 1234, operation steps: after "□" displayed, pulse "1" "2" "3" "4".

Withdraw alarm: Must input 4-digit correct password, incorrect password fail to withdraw alarm, input correct password again can withdraw alarm.

Please pay attention: Withdraw control host (alarm system) alarm and then input private code to remove AUTO-DIALER alarm while try to stop AUTO-DIALER 911 dialing.

Operation list

1. Enter programming state: [PAUSE] [password] [ENTER], "S" will display, if password is correct, "E" will display if password error, and return to working state.
2. In alarm state, input correct password will withdraw alarm, please pay attention that reset detector to normal state, otherwise it will fail to withdraw alarm.
3. In programming state, operation can be as followings:

Operation	Description	Display
[E1] [phone number] [ENTER]	Save/Edit the first group number	Input phone number, "0" will appear
[E2] [phone number] [ENTER]	Save/Edit the second number	Input phone number, "0" will appear
[E3]/ [E4]/[E5]/ [E6]/[7]/[E8] [phone number] [ENTER]	Save/Edit the fifth to eighth number	Input phone number, "0" will appear
[3][E1]	Inquire the first group number	Input [3], "[" appears; input [E1], phone number appears
[3][E2]	Inquire the second group number	Input [3], "[" appears; input [E2], phone number appears
[3] [E3]/ [E4]/[E5]/ [E6]/[7]/[E8]	Inquire the fifth to eighth group number	Input [3], "[" appears; input [E3]~[E8], phone number appear
[PAUSE] [password] [ENTER]	Save/Edit password, (must be 4 digits)	hear a tone "Du" after input
[3][PAUSE]	Inquire password	password appears, and hear a tone "Du"
[1]	Record voice message, can stop record by press "ENTER"	Input [1], "[" will appear; record, "Du" voice after finish
[3][2]	Play voice message	Input [3], "[" appears; input [2], [P] appears
[6][1] [cycle times] [ENTER]	Choose alarm means one, stop alarm after circulatory dialing	Input [6], [F] appears; input [1], input times and [ENTER], [0] appears
[6][2][ENTER]	Choose alarm means two, stop alarm when signal restore	Input [6], [F] appears; input [2], input [ENTER], [0] appears
[6][3][ENTER]	Choose alarm means three, stop alarm by input password	Input [6], [F] appears; input [3], input [ENTER], [0] appears
[4] [1] [ENTER]	12Vdc trigger	Input[4], [F] appears; input [1], [0] appears
[4] [2] [ENTER]	Normal open trigger	Input[4], [F] appears; input [2], [0] appears
[4] [3] [ENTER]	Normal close trigger	Input[4], [F] appears; input [3], [0] appears
[3] [4] [ENTER]	Inquiry triggering method	Input[3], [C] appears; input [4], 1/2/3 appears
[7] [2] [ENTER]	Triggering time set as 2secs	Input[7], [C] appears ; input [2], 0~9 appears(0=0.5secs, 1=1secs... 9= 9secs)
[3] [7] [ENTER]	Inquiry triggering time	Input[3], [C] appears; input [7], 1~9 appears
[8]+[911]+[ENTER]	Reset to factory default value	
[ENTER]	Esc programming	

Printer

Epson LQ-350

NEW

The compact Epson LQ-350 is the ideal printer for front and back office applications where space may be limited as well as for measurement and control systems. The copy capability of one original plus three copies makes this 24-pin printer suitable for point of sale applications where reliable, light duty printing is required.



24-PIN DOT MATRIX PRINTER

Key features

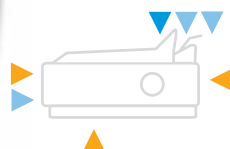
- Compact 24-pin narrow carriage printer
- Up to 416 characters per second (12cpi)
- Robust printer with an MTBF of 10,000 hours
- Prints up to 4-part forms (1 original + 3 copies)
- Versatile top and rear paper paths
- 8 built-in bar code fonts
- USB, parallel and serial interfaces
- Reliable printhead life of 400 million strokes/wire
- Long lasting ribbon yield of 2.5 million characters

Options

- Roll paper holder

Epson LQ-590

With a mean volume between failure of 40 million lines and a high print speed of 529cps this extremely robust printer is ideal for medium and large print volumes. Flexible paper management allows insertion from the front, top, rear, and bottom, while a front sheet guide enables front feeding of even small paper types. Typical applications are labels, barcodes and point of sale invoice printing.



24-PIN DOT MATRIX PRINTER

Key features

- Very high print speed of up to 529 characters per second (12cpi)
- Copy capability of 1 original + 4 copies
- Extremely robust printer with an MTBF of 20,000 POH
- Reliable printhead life of 400 million strokes/wire
- Long lasting ribbon of 5 million characters
- Versatile front, top, rear and bottom paper paths
- Sound reduction down to 49dB(A) in low-noise mode

Options

- 150 or 50 sheet cut sheet feeder
- Front paper guide
- Additional push/pull tractor unit
- Roll paper holder
- Wired network interfaces, serial interface

For options and consumables see page 25-27

Smoke & Heat sensors
4098-9714/4098-9733

Features

TrueAlarm analog sensing provides the following features

- Digital transmission of analog sensor values using IDNet or MAPNET II two-wire communications

For use with the following Simplex products

- 4007ES, 4010, 4010ES, 4100ES, and 4100U Series control units ; and 4008 Series control units with reduced feature set (refer to data sheet [S4008-0001](#) for details)
- 4020, 4100, and 4120 Series control units, Universal Transponders, and 2120 TrueAlarm CDTs equipped for MAPNET II operation

Fire alarm control unit provides the following features

- Peak value logging with accurate analysis of each sensor for individual sensitivity selection
- Sensitivity monitoring meets NFPA 72 sensitivity testing requirements; automatic individual sensor calibration check verifies sensor integrity
- Automatic environmental compensation, multi-stage alarm operation, and display of sensitivity directly in percent for each foot
- Display and print detailed sensor information in plain English language

Photoelectric smoke sensors provide the following features

- Sensitivity levels from 0.2% to 3.1%. See [TrueAlarm sensors](#) for more information.

Heat sensors have these features

- Three fixed temperature sensing thresholds: 135°F, 155°F and 190°F
- Rate-of-rise temperature sensing
- Utility temperature sensing
- Listed to UL 521 and ULC-S530

General features

- Ceiling or wall mounting
- Listed to UL 268 7th Edition and ULC-S529
- NEMA 1 rated. See [TrueAlarm analog sensing product selection chart](#) for more information.
- Louvered smoke sensor design enhances smoke capture by directing flow to chamber; entrance areas are minimally visible when ceiling mounted
- Designed for EMI compatibility
- Magnetic testing
- Different bases support a supervised or unsupervised output relay, or a remote LED alarm indicator

Additional base reference

- For isolator bases, refer to data sheet [S4098-0025](#)
- For sounder bases, refer to data sheet [S4098-0028](#)
- For photo/heat sensors, refer to data sheet [S4098-0024](#) , single address and [S4098-0033](#) , dual address

Description

Digital communication of analog sensing

TrueAlarm analog sensors provide an analog measurement digitally communicated to the host control panel using Simplex addressable communications. The control unit analyses the data, determines an

average value and stores it. Comparing the sensor's present value against its average value and time, determines an alarm or other abnormal condition.

Intelligent data evaluation

Monitoring each sensor's average value provides a continuously shifting reference point. A software filtering process compensates for environmental factors, such as dust and dirt, and component aging, to provide an accurate reference for evaluating new activity. This filtering reduces the probability of false or nuisance alarms caused by shifts in sensitivity, either up or down.

Control unit selection

The control unit stores peak activity for each sensor to assist in evaluating specific locations. The host control unit determines the alarm set point for each TrueAlarm sensor, selectable as more or less sensitive as the individual application requires.

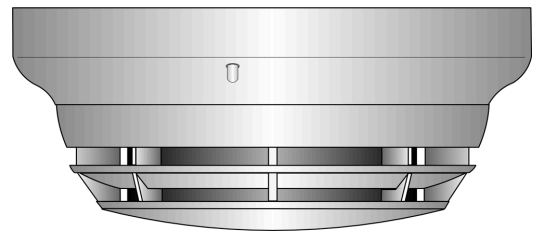


Figure 1: 4098-9714 TrueAlarm photoelectric sensor mounted in base

Timed/multi-stage selection

You can program the sensor alarm set points for timed automatic sensitivity selection, such as more sensitive at night, less sensitive during day. You can program the control unit to provide multi-stage operation for each sensor.

Sensor alarm and trouble LED indication

Each sensor base's LED pulses to indicate communications with the unit. If the control unit determines a sensor is in alarm, is dirty, or has some other type of trouble, the details are annunciated at the control unit and the sensor's base LED will turn on steadily. During a system alarm, the control unit will control the LEDs such that an LED indicating a trouble will return to pulsing to help identify the alarmed sensors.

TrueAlarm sensor bases and accessories

Sensor base features

Base mounted address selection

- Address remains with its programmed location
- Accessible from front, DIP switch under sensor

General features

- Automatic identification provides default sensitivity when substituting sensor types
- Integral red LED for power-on, pulsing, or alarm or trouble, steady on
- Locking anti-tamper design mounts on standard outlet box
- Magnetically-operated functional test

* These products have been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listings 7272-0026:218, 7271-0026:231, 7270-0026:216, and 7300-0026:217 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable, contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

Sensor bases

4098-9792, standard sensor base

4098-9789, sensor base with wired connections

- 2098-9808 remote LED alarm indicator or 4098-9822 relay (relay is unsupervised and requires separate 24 VDC)

Supervised relay bases not compatible with 2120 CDT:

- **4098-9791, 4-wire sensor base**, use with remote or locally mounted 2098-9737 relay, requires separate 24 VDC
- **4098-9780, 2-wire sensor base**, use with remote or locally mounted 4098-9860 relay, no separate power required
- Supervised relay operation is programmable and can be manually operated from control unit
- Includes wired connections for remote LED alarm indicator or 4098-9822 relay, relay is unsupervised and requires separate 24 VDC

Sensor base options

2098-9737, remote or local mount supervised relay

- DPDT contacts for resistive/suppressed loads
- power limited rating of 3 A at 28 VDC
- non-power limited rating of 3 A at 120 VAC, requires external 24 VDC coil power

4098-9860, remote or local mount supervised relay

- SPDT dry contacts, power limited rating of 2 A at 30 VDC, resistive; non-power limited rating of 0.5 A at 125 VAC, resistive

4098-9822, LED annunciation relay

- Activates when base LED is on steady, indicating local alarm or trouble
- DPDT contacts for resistive/suppressed loads, power limited rating of 2 A at 28 VDC; non-power limited rating of 1/2 A at 120 VAC, (requires external 24 VDC coil power)

4098-9832, adapter plate

- Required for surface or semi-flush mounting to 4 in. square electrical box and for surface mounting to 4 in. octagonal box
- Can be used for cosmetic retrofitting to existing 6 3/8 in. diameter base product

2098-9808, remote red LED alarm indicator

- Mounts on single gang box



Figure 2: Remote red LED alarm indicator

Description

TrueAlarm sensor bases contain integral addressable electronics that constantly monitor the status of the detachable photoelectric or heat sensors. Each sensor's output is digitized and transmitted to the system fire alarm control unit every four seconds.

You can easily interchange different TrueAlarm sensor types to meet specific location requirements. This feature allows intentional sensor substitution during building construction. When conditions are temporarily dusty, you can install heat sensors without reprogramming the control unit, as covering smoke sensors causes them to be disabled. Although the control unit will indicate an incorrect sensor type, the heat sensor will operate at a default sensitivity providing heat detection for building protection at that location.

Mounting reference

Electrical Box Requirements: (boxes are by others)

Without relay in the box: 4" octagonal or 4" square, 1-1/2" deep; single gang, 2" deep

With relay in the box: 4" octagonal or 4" square, 1-1/2" deep, with 1-1/2" extension ring

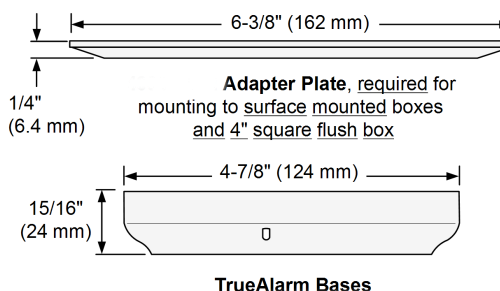
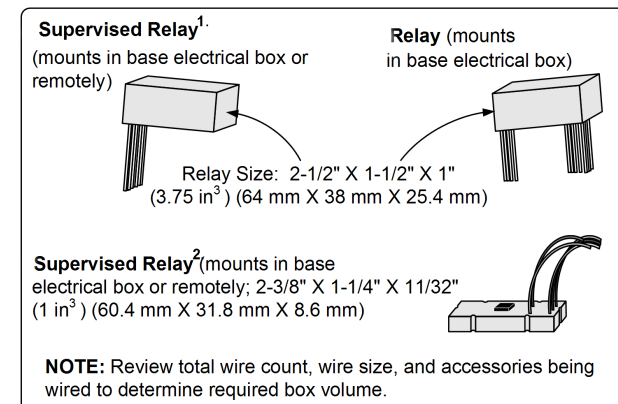
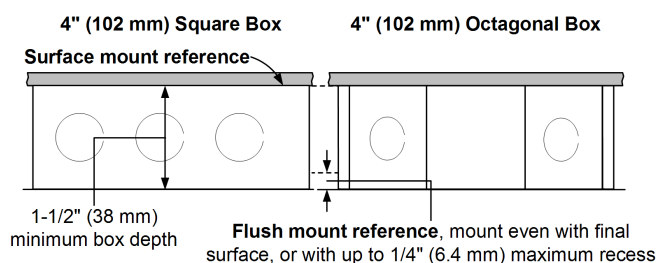


Figure 3: Mounting reference

Table 1: Product mounting - SKU reference

Product	SKU
Relay	4098-9822
Supervised relay	Example 1 2098-9739 Example 2 4098-9860
Adapter plate	4098-9832
TrueAlarm bases	4098-9780, 4098-9789, 4098-9791, 4098-9792

TrueAlarm sensors

Features

- Sealed against rear air flow entry
- Interchangeable mounting
- EMI/RFI shielded electronics
- Heat sensors:
 - Selectable rate compensated, fixed temperature sensing with or without rate-of-rise operation
 - Rated spacing distance between sensors:

Fixed Temp. Setting	UL and ULC Spacing	FM Spacing, Either Fixed Temperature Setting
135°F (57.2°C) 190°F (88°C)	60 ft x 60 ft (18.3 m)	20 ft x 20 ft (6.1 m) for fixed temperature only; RTI = Quick
155°F (68°C)	40 ft x 40 ft (12.2 m)	50 ft x 50 ft (15.2 m) for fixed temperature with either rate-of-rise selection; RTI = Ultra Fast

Note: 190°F (88°C) ratings apply only to the 4098-9734 sensor.

Smoke sensors

- Photoelectric technology sensing
- 360° smoke entry for optimum response
- Built-in insect screens

4098-9714 photoelectric sensor

TrueAlarm photoelectric sensors use a stable, pulsed LED light source and a silicon photodiode receiver to deliver consistent and accurate low power smoke sensing. There are three user-selectable sensitivities for special applications for each individual sensor: 0.2%, 0.5%, and 1% for each foot. Standard sensitivity is 1.25% to 3.1% for each foot. The fire alarm control unit runs an algorithm that can vary the sensitivity for normal applications between 1.25% and 3.1% for each foot.

Note: Fixed sensitivity settings higher than 1.0% for each foot are not UL268 7th Edition compliant.

The sensor head design provides 360° smoke entry for optimum response to smoke from any direction. Due to its photoelectric operation, air velocity is not normally a factor, except for impact on area smoke flow.

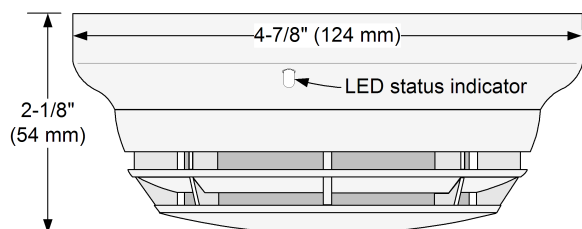


Figure 4: 4098-9714 photoelectric sensor with base

4098-9733 and 4098-9734 heat sensors

TrueAlarm heat sensors are self-restoring and provide rate-compensated, fixed temperature sensing, you can select with or without rate-of-rise temperature sensing. Due to its small thermal mass, the sensor accurately and quickly measures the local temperature for analysis at the fire alarm control unit.

You can select rate-of-rise temperature detection at the control unit for either 15°F or 20°F (8.3°C or 11.1°C) for each minute. Fixed temperature sensing is independent of rate-of-rise sensing and you can program it to operate at 135°F or 155°F (57.2°C or 68°C). The 4098-9734 sensor provides an additional 190°F (88°C) set point.

In a slowly developing fire, the temperature may not increase rapidly enough to operate the rate-of-rise feature. However, an alarm will be initiated when the temperature reaches its rated fixed temperature setting.

You can program TrueAlarm heat sensors as a utility device to monitor for temperature extremes in the range of 32°F to 155°F (0°C to 68°C). This feature can provide freeze warnings, or alert you to HVAC system problems. Refer to panel specifications for availability.

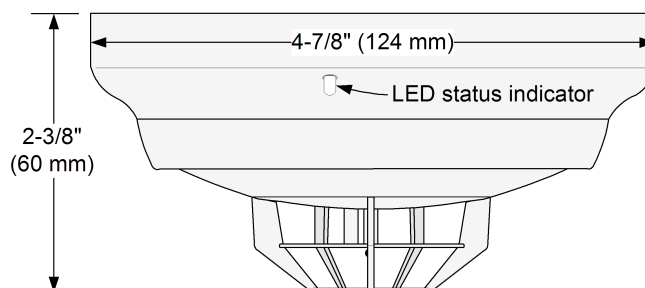


Figure 5: 4098-9733 heat sensor with base

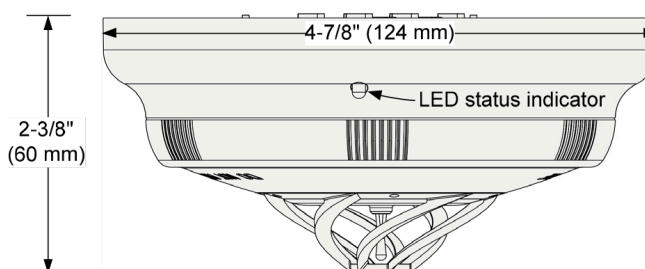


Figure 6: 4098-9734 high temperature heat sensor with base

WARNING: In most fires, hazardous levels of smoke and toxic gas can build up before a heat detection device would initiate an alarm. In cases where Life Safety is a factor, the use of smoke detection is highly recommended.

Application reference

Sensor locations should be determined only after careful consideration of the physical layout and contents of the area to be protected. Refer to NFPA 72, *the National Fire Alarm and Signaling Code*. On smooth ceilings, a smoke sensor spacing of 30 ft (9.1 m) can be used as a guide.

For detailed application information including sensitivity selection, refer to *Installation Instructions 574-709*.

TrueAlarm analog sensing product selection chart

Table 2: TrueAlarm sensor bases (for use with sensors 4098-9714 and 4098-9733)

SKU	Color	Description	Compatibility	Mounting requirements
4098-9792 GSA4098-9792	White	Standard sensor base	No options	4 in. octagonal or 4 in. square box, 1 1/2 in. min. depth; or single gang box, 2 in. min. depth
4098-9776	Black			
4098-9789 4098-9789IND GSA4098-9789	White	Sensor base with connections for remote LED alarm indicator or unsupervised relay	2098-9808 remote alarm indicator or 4098-9822 unsupervised relay	4 in. octagonal or 4 in. square box
4098-9775	Black			
4098-9791	White	4-wire sensor supervised relay base with connections for LED indicator or unsupervised relay	2098-9737 supervised remote relay	Note: Box depth requirements depend on total wire count and wire size, see Table 4 for reference.
Note: NOT compatible with the 2120 CDT			2098-9808 remote alarm indicator or 4098-9822 unsupervised relay	
4098-9780 GSA4098-9780	White	2-wire sensor supervised relay base with connections for LED indicator or unsupervised relay	4098-9860 supervised remote relay	
Note: NOT compatible with the 2120 CDT			2098-9808 remote alarm indicator or 4098-9822 unsupervised relay	

Note: SKU numbers ending in IND are assembled in India. SKU numbers with GSA prefix are assembled in the USA.

Refer to *Application Manual 574-709* and *Installation Instructions 574-707* for additional information.

Table 3: TrueAlarm sensors

SKU	Color	Description	Compatibility	Mounting requirements
4098-9714				
4098-9714-IND	White	Photoelectric smoke sensor	Bases 4098-9775, 4098-9776, 4098-9792, 4098-9789, 4098-9791, and 4098-9780	Refer to base requirements
GSA4098-9714				
4098-9774	Black			
4098-9733	White	Heat sensor		
GSA4098-9733				
4098-9778	Black			
4098-9734	White	High temperature heat sensor		
GSA4098-9734				

Note:

- All of these SKUs are NEMA 1 rated.
- The 4098-9734 Heat Sensor is compatible with IDNet on the 4100ES, 4010ES, and 4007ES only.
- SKU numbers with GSA prefix are assembled in the USA.

Table 4: TrueAlarm sensor/base accessories

SKU	Description	Compatibility	Mounting requirements
2098-9737	Supervised relay, mounts remote or in base electrical box	For use with 4098-9791 base	Remote mounting requires 4 in. octagonal or 4 in. square box, 1 1/2 in. minimum depth
4098-9860	Supervised relay, mounts remote or in base electrical box	For use with 4098-9780 base	Base mounting requires 4 in. octagonal box, 2 1/8 in. deep with 1 1/2 in. extension ring
2098-9808	Remote red LED alarm indicator on single gang stainless steel plate	Bases 4098-9789, 4098-9791, and 4098-9780	Single gang box, 1 1/2 in. minimum depth
4098-9822	Unsupervised relay, tracks base led status. Note: Mounts only in base electrical box.	Bases 4098-9789, 4098-9791, and 4098-9780	4 in. octagonal box, 2 1/8 in. deep with 1 1/2 in. extension ring
4098-9832	Adapter plate	Bases 4098-9792, 4098-9789, 4098-9791, and 4098-9780	Required for surface or semi-flush mounted 4 in. square box and for surface mounted 4 in. octagonal box

Note: 2098-9808 is NEMA 1 rated.

Specifications

Table 5: General operating specifications

Specification	Rating
Communications and sensor supervisory power	IDNet or MAPNET II communications, auto-selected, one address for each base
Communications connections	Screw terminals for in/out wiring, 18 to 14 AWG, 0.82 mm ² to 2.08 mm ²
Remote LED alarm indicator current	1 mA typical, no impact to alarm current
Remote LED alarm indicator and relay connections	Color coded wire leads, 18 AWG, 0.82 mm ²
UL listed operating temperature range	32°F to 100°F, 0°C to 38°C
Operating temperature range	with 4098-9733 Heat Sensor 32°F to 122°F, 0°C to 50°C
	with 4098-9714 Smoke Sensor 15°F to 122°F, -9°C to 50°C
	with 4098-9734 Heat Sensor 32°F to 150°F, 0°C to 66°C
Storage temperature range	0°F to 140°F, -18°C to 60°C
Humidity range	10% to 95% RH
4098-9714 smoke sensor air velocity rating	0 to 4000 ft/min, 0 to 1220 m/min
Housing color	Frost white or black

Table 6: 4098-9791 Base with supervised remote relay 2098-9737

Specification	Rating
Externally supplied relay coil voltage	18 VDC to 32 VDC, nominal 24 VDC
Supervisory current	270 µA, from 24 VDC supply
Alarm current with 2098-9737 relay	28 mA, from 24 VDC supply
Note: See Sensor base options for contact ratings.	

Table 7: 4098-9780 Base with supervised remote relay 4098-9860

Specification	Rating
Power	Supplied from communications

Table 8: 4098-9822 Unsupervised relay, requirements for bases 4098-9789, 4098-9791, and 4098-9780

Specification	Rating
Externally supplied relay coil voltage	18 VDC to 32 VDC, nominal 24 VDC
Supervisory current	Supplied from communications
Alarm current	13 mA from separate 24 VDC supply
Note: See Sensor base options for contact ratings.	

Multi Sensor
4098-9754



UL, ULC, CSFM Listed; FM Approved;
MEA (NYC) Acceptance*

TrueAlarm Multi-Point Analog Sensing

TrueAlarm Multi-Sensor Model 4098-9754
Providing TrueSense Early Fire Detection

Features

TrueAlarm photoelectric smoke sensing and heat sensing combined in one housing to provide:

- Smoke activity accurately monitored by TrueAlarm photoelectric sensing technology
- Thermal activity accurately monitored by TrueAlarm thermistor sensing technology
- And **TrueSense detection**, a correlation of smoke activity and thermal activity providing intelligent fire detection earlier than with either activity alone

For use with Simplex® 4007ES, 4010ES, 4100ES, and 4100U fire alarm control panels:

- TrueAlarm analog sensor information is digitally communicated to the control panel via IDNet two-wire communications
- Special point types allow the 4098-9754 multi-sensor to communicate smoke and heat analog sensing data **using only one IDNet address**
- Individual sensor information is processed by the host control panel to determine sensor status and to determine whether conditions are normal, off-normal, or alarm
- (4100U fire alarm control panels require software revision 11 or higher with multi-point compatible IDNet transmission modules)

Alarms can be determined by either:

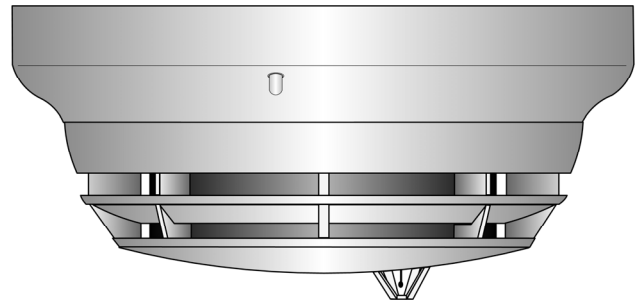
- Smoke detection with selectable sensitivity from 0.2 to 3.7 %/ft obscuration (refer to additional information on page 2)
- Heat detection selectable as fixed temperature or fixed with selectable rate-of-rise
- TrueSense intelligent analysis of the combination of smoke and heat activity

Additional design features:

- Functional and architecturally styled enclosures for ceiling or wall mounting
- Smoke sensor louver design that directs air flow to chamber enhancing smoke capture
- Built-in magnetic test feature
- Compatible with standard bases (including relay control), sounder bases, and isolator bases
- Designed for EMI compatibility

UL listed to Standard 268

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listings 7272-0026:218 and 7300-0026:217 for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. Refer to page 4 for ULC listing status. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



TrueAlarm Multi-Sensor 4098-9754
Mounted in Standard Sensor Base

TrueAlarm Multi-Sensor Description

TrueAlarm multi-sensor model 4098-9754 combine the established performances of a TrueAlarm photoelectric smoke sensor with a fast-acting and accurate TrueAlarm thermal sensor to provide both features in a single sensor/base assembly.

Digital Communication of Analog Sensing.

Analog information from each sensor is digitally communicated to the control panel where it is analyzed. Photoelectric sensor input is stored and tracked as an average value with an alarm or abnormal condition being determined by comparing the sensor's present value against its average value. Thermal data is processed to look for absolute or rate-of-rise temperature as desired.

Intelligent Data Evaluation. Monitoring each photoelectric sensor's average value provides a software filtering process that compensates for environmental factors (dust, dirt, etc.) and component aging, providing an accurate reference for evaluating new activity. The result is a significant reduction in the probability of false or nuisance alarms caused by shifts in sensitivity, either up or down. Status indications of dirty and excessively dirty are automatically generated allowing maintenance to be performed per device.

Control Panel Selection. Peak activity per sensor is stored to assist in evaluating specific locations. The alarm set point for each TrueAlarm sensor is determined at the control panel, selectable as more or less sensitive as the individual application requires.

Multi-Point Reporting and CO Base Reference.

Reporting 4098-9754 "sub-points" under its single address varies with the base used. Multi-point details are listed in data sheet S4090-0011.

Using the 4098-9754 with CO sensor bases is detailed in data sheet S4098-0052.

Description (Continued)

Timed/Multi-Stage Selection. Alarm set points can be programmed for timed automatic sensitivity selection (such as more sensitive at night, less sensitive during day). Control panel programming can also provide multi-stage operation per sensor. For example, a 0.2% level may cause a warning to prompt investigation while a 2.5% level may initiate an alarm.

Sensor Alarm and Trouble LED Indication. Each sensor base's LED pulses to indicate communications with the panel. If the control panel determines that a sensor is in alarm, or that it is dirty or has some other type of trouble, the details are annunciated at the control panel and that sensor base's LED will be turned on steadily. During a system alarm, the control panel will control the LEDs such that an LED indicating a trouble will return to pulsing to help identify the alarmed sensors.

TrueAlarm Analog Sensor Features

General mechanical:

- Housing is sealed against rear air flow entry
- Electronics are EMI/RFI shielded

Smoke sensing:

- Photoelectric light scattering sensing technology
- 360° smoke entry for optimum response
- Chamber screen provides protection from dirt, dust, and insects

Heat sensing:

- Fast response thermistor design
- Rate compensated, self-resetting operation
- Control panel can select per sensor for fixed temperature sensing, rate-of-rise temperature sensing, or the combination of both

Photoelectric Sensing Details

TrueAlarm photoelectric sensors use a stable, pulsed infrared LED light source and a silicon photodiode receiver to provide consistent and accurate low power smoke sensing. Seven levels of sensitivity are available for each individual sensor, ranging from 0.2% to 3.7% per foot of smoke obscuration. Sensitivities of 0.2%, 0.5%, and 1% are for special applications in clean areas. Standard sensitivities are 1.5%, 2.0%, 2.5%, 3.0%, and 3.7%. Application type and sensitivity are selected and then monitored at the fire alarm control panel.*

Sensor head design provides 360° smoke entry for optimum smoke response. Because of the photoelectric sensing technology, the 4098-9754 sensor is UL listed for air velocity of up to 4000 ft/min. However, care must be taken in determining sensor locations to avoid areas where local airflow may also impact any smoke flow. (Refer to the application reference section on this page.)

Heat Sensing Details

TrueAlarm heat sensors monitor a fast reacting thermistor providing operation that is self-restoring and rate compensated. Due to its small thermal mass, the sensor accurately and quickly measures the local temperature for analysis at the fire alarm control panel. The control panel allows alarm selection to be per sensor as fixed temperature, or rate-of-rise temperature, or the combination of both.

Temperature Detection. Rate-of-rise temperature detection is selectable at the control panel for either 15° F (8.3° C) or 20° F (11.1° C) per minute. Fixed temperature sensing is independent of rate-of-rise sensing and selectable to operate at 135° F (57.2° C) or 155° F (68° C). In a slow developing fire, the temperature may not increase rapidly enough to operate the rate-of-rise feature. However, an alarm will be initiated when the temperature reaches its selected fixed temperature setting.

Utility Temperature Monitoring. TrueAlarm heat sensors can be programmed as a utility device to monitor for temperature extremes in the range from 32° F to 122° F (0° C to 50° C). This feature can provide freeze warnings or alert to HVAC system problems.

TrueSense Detection Details

Control Panel Sensor Analysis. Each multi-sensor's smoke and heat sensing element provides data for evaluation at the fire alarm control panel where four independent detection modes are evaluated. They are:

- Fixed temperature heat detection
- Rate-of-rise heat detection
- TrueAlarm photoelectric smoke detection
- And TrueSense correlation detection

Comparing Photoelectric Activity and Thermal Activity.

TrueSense analysis correlates both thermal activity *and* smoke activity at a single multi-sensor location using an extensively tested covariance relationship. As a result, TrueSense detection improves response to conditions indicative of faster acting, hot flaming fires when compared to the response of either photoelectric smoke activity or thermal activity alone.

High Integrity Detection. TrueSense operation provides early fire detection and maintains the established high level of immunity to false alarms and nuisance alarms that is inherent with TrueAlarm sensor operation.

Application Reference

Sensor locations should be determined after careful consideration of the physical layout and contents of the area to be protected. Refer to NFPA 72, the *National Fire Alarm and Signaling Code*. On smooth ceilings, smoke sensor spacing of 30 ft (9.1 m) may be used as a guide.*

* For detailed application information, refer to *4098 Detectors, Sensors, and Bases Application Manual*, document number 574-709.

Multi-Sensor Base Features

Base mounted address selection allows the address of the multi-sensor base to remain with its programmed location when the sensor is removed for service.

Integral red LED indicates power-on by pulsing, or alarm or trouble when steady on, reflecting status of either sensor. The exact status of the specific sensing element is annunciated at the fire alarm control panel.

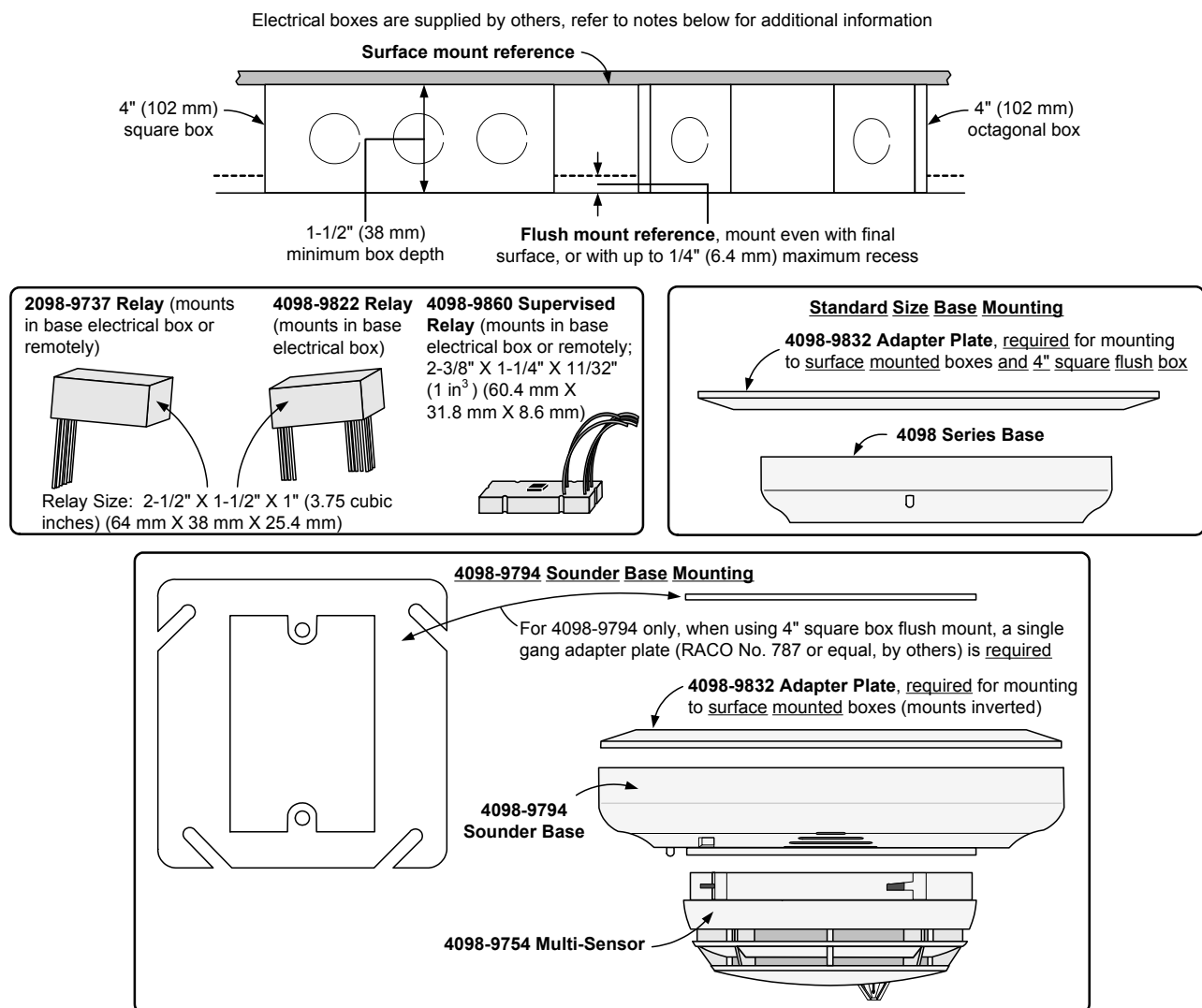
Fire Alarm Control Panel Features

- Individual smoke sensitivity and temperature operation is selectable for each sensor
- Sensitivity monitoring that satisfies NFPA 72 sensitivity testing requirements

Mounting Reference

Fire Alarm Control Panel Features (Cont'd)

- Peak value logging allows accurate analysis for sensitivity selection
- Automatic, once per minute individual sensor calibration check verifies sensor integrity
- Multi-stage alarm operation
- Selectable alarm verification
- Automatic environmental compensation and determination of dirty and excessively dirty
- TrueSense analysis of smoke and heat activity
- Ability to display and print detailed sensor information in plain English language
- Smoke sensitivity displayed in percent per foot and temperature readings selectable as Fahrenheit or Celsius



NOTES:

1. Review wire size, wire count, box type, and whether a locally mounted relay is used before determining box size.
2. When a locally mounted relay is used, mount relay in electrical box and use 1-1/2" extension ring (by others) on 4" square or octagonal box of 1-1/2" or 2-1/8" depth as required.
3. Flush mounting also fits a single gang box, 2-1/8" (51 mm) deep if compatible with wiring requirements. (Not applicable if a locally mounted relay is used.)
4. Refer to Systems Manual 574-709 for additional information.

Strobe 4906-9101



TrueAlert® Multi-Candela Notification Appliances

UL, ULC, CSFM Listed; FM Approved;
MEA (NYC) Acceptance*

Visible Notification Appliances with Synchronized Flash;
Non-Addressable, SmartSync™ Operation Compatible

Features

Visible only (V/O) 24 VDC notification appliances with high output xenon strobe, available for wall or ceiling mount:

- UL listed to Standard 1971
- Intensity is selectable as 15, 30, 75, or 110 candela with visible selection jumper secured behind strobe housing
- Operation is compatible with ADA requirements (refer to important installation information on page 3)
- Polarized input allows connection to compatible reverse polarity, supervised notification appliance circuit (NAC)
- Regulated circuit design ensures consistent flash output and provides controlled inrush current
- Rugged, high impact, flame retardant thermoplastic housings are available in red or white with clear lens

Strobes provide synchronized flash for use with:

- 4006, 4008, 4010, and 4100U Series fire alarm control panels with NACs selected to provide strobe synchronization or SmartSync two-wire control**
- 4009 IDNet™ NAC Extenders
- Separate strobe Synchronization Modules that are available for Class B or Class A operation
- Separate SmartSync Control Modules (SCMs) that provide Class B or Class A output from conventional NAC inputs

Strobe housings provides flexible, easy, and convenient semi-flush or surface wall mounting:

- Rear of housing does not extend into box
- Wall mount strobes easily mount to single gang, double gang, or 4-inch square outlet box
- Ceiling mount strobes mount to single gang boxes

Wall mount strobe features:

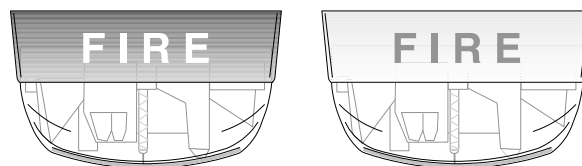
- Wiring terminals are accessible from the front of the housing providing easy access for installation, inspection, and testing
- Covers are available separately to convert housing color

Optional adapters and wire guards:

- Wall mount strobe adapters are available to cover surface mounted electrical boxes and to adapt to Simplex® 2975-9145 boxes
- UL listed red wire guards are available for wall or ceiling mount strobes



Wall Mount Strobes



Ceiling Mount Strobes

Description

Multi-Candela TrueAlert synchronized strobes

provide convenient installation to standard electrical boxes. The enclosure designs are both impact and vandal resistant and provide a convenient strobe intensity selection. Since each model can be selected for intensity output, on-site model inventory is minimized and changes encountered during construction can be easily accommodated.

Wall mount strobe housings are a one-piece assembly (including lens) that mounts to a single or double gang, or 4" square standard electrical box. The cover can be quickly removed (a tool is required) and covers are available separately for color conversion.

Ceiling mount strobes install using standard single gang electrical boxes. Color choice is determined by model number.

Strobe Intensity Selection

During installation, a selection plug at the back of the housing determines the desired strobe intensity. An attached flag with black letters on a highly visible yellow background allows the selected intensity to be seen at the side of the strobe lens.

Strobe Application Reference

Proper selection of visible notification is dependent on occupancy, location, local codes, and proper applications of: the *National Fire Alarm Code* (NFPA 72), ANSI A117.1; the appropriate model building code: BOCA, ICBO, or SBCCI; and the application guidelines of the Americans with Disabilities Act (ADA).

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7125-0026:316 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Refer to page 2 for listing status of wire guards. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.

** Simplex multi-candela SmartSync two-wire horn/strobe appliance operation is protected under one or more of the following U.S. Patent Numbers: 5,559,492; 5,622,427; 5,865,527; 5,886,620; 6,281,789; 6,954,137; 7,005,971; and 7,006,003.

Synchronized Strobes

Multiple Strobes. When multiple strobes and their reflections can be seen from one location, synchronized flashes reduce the probability of photo-sensitive reactions as well as the annoyance and possible distraction of random flashing. These multi-candela strobes are synchronized over a two-wire circuit when connected to compatible NACs, to compatible Synchronized Flash Modules, or to SmartSync Control Modules.

SmartSync Two-Wire Control

Some applications desire the audible notification appliances to be capable of being silenced before the alarm condition is reset (on-until-silenced) while the visible notification appliances are kept activated until the alarm condition is reset (on-until-reset). SmartSync operation mode provides this function using a single circuit (two-wire operation).

SmartSync Control Sources

Class B SmartSync two-wire control is available from:

- **4006, 4008, 4100U, and 4010 Fire Alarm Control Panels** (refer to individual product data sheets for more information)
- **4009 IDNet NAC Extender** (refer to data sheet S4009-0002)
- **SmartSync Control Module (SCM)** 4905-9938 (refer to data sheet S4905-0003)

Class A SmartSync two-wire control is available from 4100U NACs and from the 4905-9938 SCM.

Additional SmartSync compatible notification appliances include separate horns and combination horn/strobe notification appliances.

Product Selection

Multi-Candela Visible Notification Appliances (Strobes)

Model	Mounting	Housing Color	"FIRE" Lettering	Description
4906-9101	Wall	Red	White	Multi-candela strobe with intensity selectable as: 15, 30, 75, or 110 candela; synchronized flash rate; SmartSync two-wire control compatible
4906-9103		White	Red	
4906-9102	Ceiling	Red	White	
4906-9104		White	Red	

Wall Mount Strobe Adapters

Model	Description	Dimensions
4905-9937	Red Surface Mount Adapter Skirt; use to cover 1-1/2" (38 mm) deep surface mounted boxes	5-3/8" H x 5-1/4" W x 1-5/8" D (136 mm x 133 mm x 41 mm)
4905-9940		Total depth with strobe = 4-3/8" (111 mm)
4905-9931	Red Adapter Plate for mounting to Simplex 2975-9145 box (typically for retrofit, may be mounted vertical or horizontal)	8-5/16" x 5-3/4" x 0.060" Thick (211 mm x 146 mm x 1.5 mm)
2975-9145	Red Mounting Box, requires Adapter Plate 4905-9931	7-7/8" x 5-1/8" x 2-3/4" D (200 mm x 130 mm x 70 mm)

Ceiling Mount Strobe Adapter

Model	Description	Dimensions
4905-9910	Surface Mount Adapter Plate; zinc plated; required for mounting to handy box; not needed when using 4905-9926 guard	4-7/8" x 3-1/8" x 0.060" D (124 mm x 79 mm x 1.5)

Synchronization Modules (refer to data sheet S4905-0003 for additional information)

Model	Description		Dimensions
4905-9914	Class B	Synchronized Flash Module; epoxy encapsulated with in/out 18 AWG (0.82 mm ²) wire leads, rated for 2 A NAC, requires 10 mA for power	1-3/8" x 2-7/16" x 13/16" (35 mm x 62 mm x 20 mm)
4905-9922	Class A		
4905-9938	SmartSync Control Module with Class B or Class A output; mounts in 4" (102 mm) square box		4" x 4-1/8" x 1-1/4" D (102 mm x 105 mm x 32 mm)

Replacement Covers and Guards

Model	Description	Dimensions
4905-9992	Red cover with white "FIRE" lettering	5-1/8" H x 5" W x 1-1/2" D (130 mm x 127 mm x 38 mm)
4905-9993	White cover with red "FIRE" lettering	
4905-9961*	Wall mount	Red wire guard with mounting plate, compatible with semi-flush or surface mounted boxes
4905-9926*	Ceiling mount	
		6-1/16" H x 6-1/16" W x 3-1/8" D (154 mm x 154 mm x 79 mm)
		6-1/8" x 4-3/8" x 2-7/8" deep (156 mm x 111 mm x 73 mm)

* UL listed by Space Age Electronics Inc.

Strobe Specifications

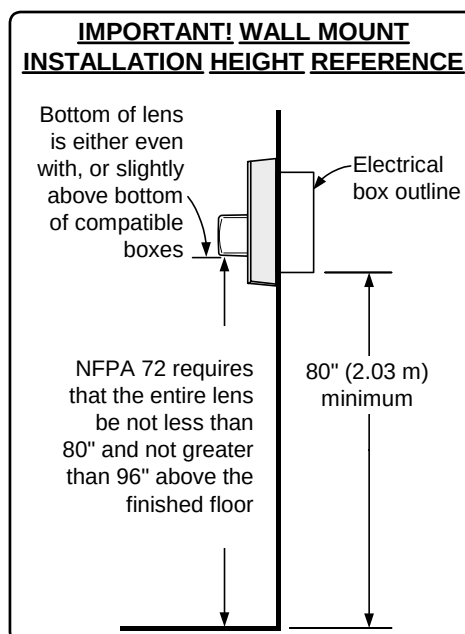
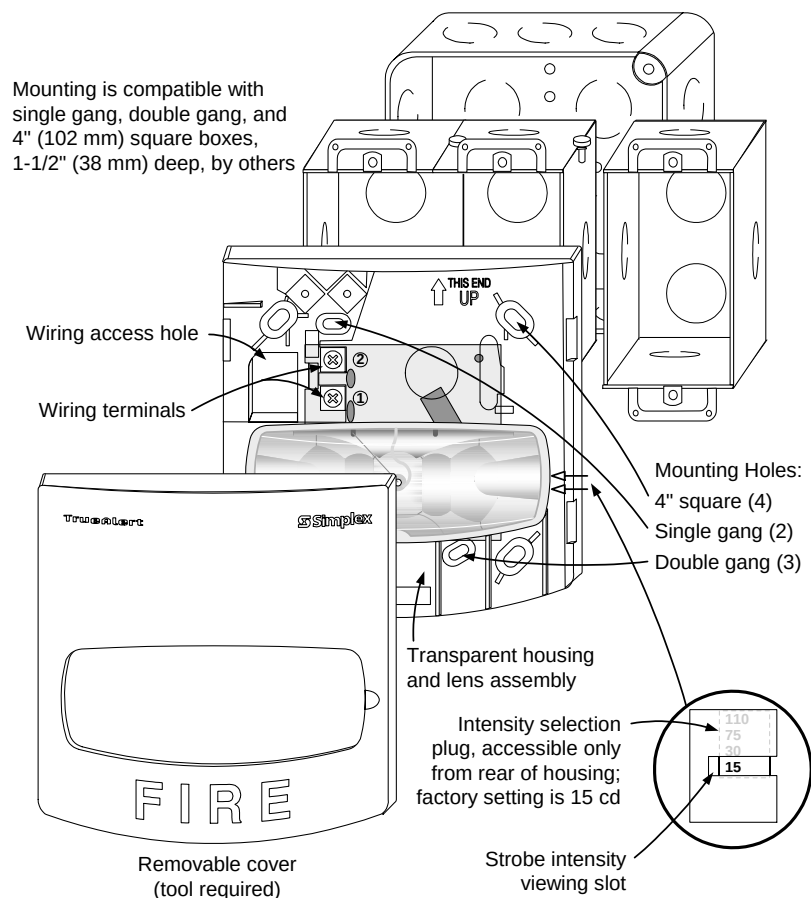
Wall Mount or Ceiling Mount, Common Specifications

Rated Voltage Range		UL Listed Rating	Regulated 24 VDC; see Note 1 below			
		ULC Listed Rating	20 VDC to 30 VDC per ULC S526-M878			
Flash Rate		1 Hz				
Synchronized NAC Loading		Up to 35 synchronized strobes maximum per NAC				
Temperature Range		32° to 122° F (0° to 50° C)				
Humidity Range		10% to 93%, non-condensing at 100° F (38° C)				
Connections		Terminal blocks for 18 AWG to 12 AWG (0.82 mm ² to 3.31 mm ²); two wires per terminal for in/out wiring				
Wall Mount	Housing Dimensions (with lens)		5-1/8" H x 5" W x 2-3/4" D (130 mm x 127 mm x 70 mm)			
	Maximum RMS Current Rating per Strobe Setting (see Note 2 below)		15 cd	30 cd	75 cd	110 cd
			60 mA	94 mA	186 mA	252 mA
	Reference RMS Currents at other voltages	18 VDC	55 mA	85 mA	169 mA	226 mA
		24 VDC	41 mA	63 mA	123 mA	164 mA
Ceiling Mount	Housing Dimensions (with lens)		4-3/4" L x 2-5/16" W x 2-5/8" D (121 mm x 75 mm x 67 mm)			
	Maximum RMS Current Rating per Strobe Setting (see Note 2 below)		15 cd	30 cd	75 cd	110 cd
			75 mA	125 mA	233 mA	316 mA
	Reference RMS Currents at other voltages	18 VDC	64 mA	102 mA	199 mA	266 mA
		24 VDC	49 mA	76 mA	146 mA	195 mA

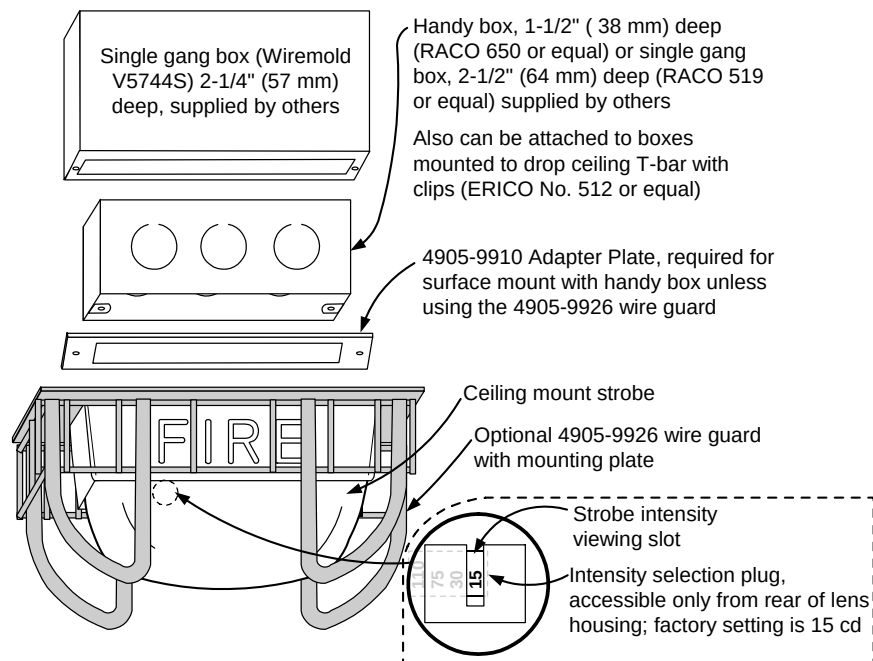
NOTES:

1. "Regulated 24 VDC" refers to the voltage range of 16 to 33 VDC per UL Standard 1971, *Signaling Devices for the Hearing Impaired*, changes effective May 1, 2004. This voltage range is the absolute operating range. Operation outside of this range may cause permanent damage to the strobe. Please note that 16 VDC is the lowest operating voltage that is allowed at the last appliance on the NAC under worst case conditions.
2. The maximum RMS current listed is the device nameplate rating. Strobe designs are constant wattage and the maximum RMS current rating occurs at the lowest allowable operating voltage. (RMS is root mean square and refers to the effective value of a varying current waveform.)

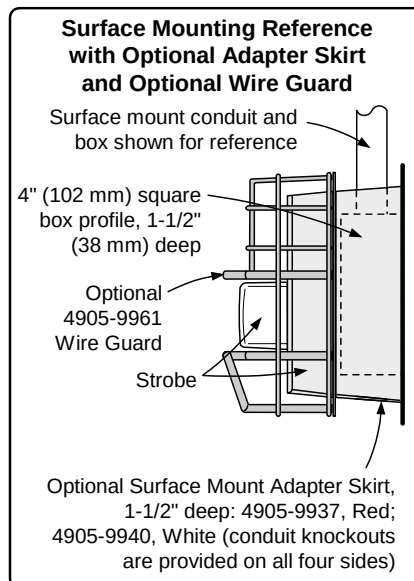
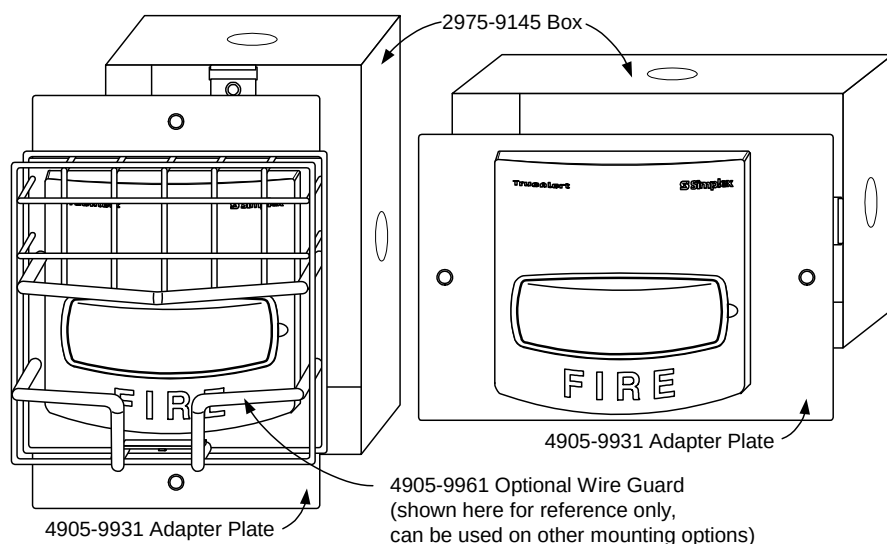
Installation Reference, Surface or Semi-Flush Wall Mounting



Ceiling Mount Strobe Installation Reference



Wall Mount Installation Reference; Adapter Plate, Guard, and Adapter Skirt



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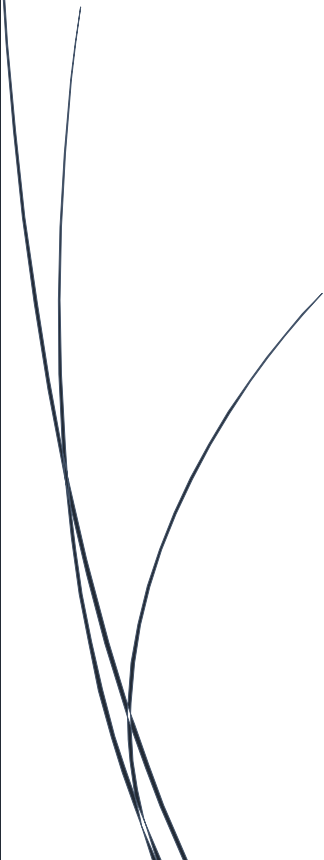


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S4906-0001-2 5/2007

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Serin 4906-9820



Features

Low current, 24 VDC electronic horn provides:

- Harmonically rich sound output suitable for either steady or pulsed operation
- Diode polarized input for connection to reverse polarity, supervised NACs
- Rugged, high impact, flame retardant red thermoplastic housing with white "FIRE" lettering (white cover is available separately)

Switch selectable horn operation modes:

- Free-Run mode tracks the output of a conventional fire alarm control panel notification appliance circuit (NAC)
- SmartSync two-wire control mode accepts horn control commands from compatible control panels (see list on page 2)

Free-Run Mode operation provides:

- Horn activated when NAC is in alarm; suitable for Temporal pattern, March Time patterns, or Coded patterns as determined by control panel operation

SmartSync two-wire control of audible and visible notification appliance provides:

- SmartSync control of horn tone as Temporal Pattern, March Time pattern (at 60 BPM), or on continuously; controlled separately from visible appliances on the same circuit
- Visible appliances on the same circuit operate at a synchronized 1 Hz flash rate
- Operation that allows "on-until-silenced" and "on-until-reset" on the same two-wire pair

TrueAlert notification appliance design provides flexible, easy, and convenient semi-flush or surface wall mounting:

- Easily mounts to single gang, double gang, or 4-inch square electrical box
- In/out wiring terminals, 18 AWG to 12 AWG
- Rear of housing does not extend into box

Optional Accessories:

- Mounting adapters to cover surface mounted electrical boxes and to adapt to Simplex 2975-9145 boxes
- UL listed wire guard 4905-9961*
- UL/ULC listed sound damper for locations requiring attenuation of 5 to 6 dBA (stairwells, small rooms, highly reverberant areas, etc.)
- White cover with red "FIRE" lettering for on-site color conversion (ordered separately)

Listing Reference:

- UL listed to Standard 464
- ULC listed to Standard S525
- NEMA 1 rated. See [Product Selection](#) for more information.

Description

TrueAlert non-addressable horn model 4901-9820

TrueAlert non-addressable horn model 4901-9820 is an audible notification appliance with a loud and penetrating, harmonically rich sound that can be controlled either directly from a standard NAC (free-run operation mode) or by the SmartSync two-wire operation mode.

Standard (free-run) operation mode.

In the free-run mode, a positive voltage from the controlling NAC will activate the horn according to the desired output of continuous or coded output per the controlling NAC's capabilities.



Figure 1: 4901-9820 TrueAlert Non-Addressable Horn, Red Cover with White Lettering

SmartSync mode.

When selected for SmartSync mode and used with compatible Simplex control (refer to list on page 2), this horn can be wired onto the same two-wire NAC circuit as visible appliances but with separately controlled operation. Typical applications are audible notification activated as "on-until-silenced" and visible notification appliances activated "on-until-reset." In addition, visible appliances (strobes) on the same circuit are activated with synchronized flashes.

SmartSync control two-wire advantage.

Allowing these separate controls to be carried on the same two-wire NAC circuit can significantly reduce installation time and expense for both retrofit and new construction.

Flexible mounting.

This horn can be semi-flush or surface mounted on a standard single gang, double gang, or 4" square (102 mm) electrical box. Optional accessories are available to increase mounting and application flexibility.

SmartSync Two-Wire Control

SmartSync operation mode allows a two-wire circuit to provide the ability to activate both the horn and strobe on the same NAC and then allow the horn to be silenced while the strobe remains flashing. The horn operates as "on-until-silenced" while the strobe operation is "on-until-reset."

SmartSync Control Sources

SmartSync two-wire control is available from:

- 4006, 4007ES Hybrid, 4008, 4010, 4010ES, and 4100U Fire Alarm Control Panels (refer to individual product data sheets for more information)
- 4009 IDNet NAC Extenders (refer to data sheet S4009-0002)
- SmartSync Control Module (SCM) Model 4905-9938 (refer to data sheet S4905-0003)

Product Selection

Table 1: Product Selection

Model	Description	Dimensions
4901-9820 ¹	TrueAlert non-addressable electronic horn, red with white "FIRE" lettering	5-1/8" H x 5" W x 1-1/2" D (130 mm x 127 mm x 38 mm)
4905-9838	Optional Sound Damper; package of 20; field installed adhesive backed horn output attenuator; reduces output 5 to 6 dBA Note: After Sound Damper installation, measure sound level to ensure compliance with applicable code requirements	1-3/4" Diameter (44.5 mm) with 0.31" (8 mm) sound opening

¹NEMA 1 rated when used with 4905-9931 adaptor plate and 2975-9145 back box.

Table 2: Adapters

Model	Description	Dimensions
4905-9937	Surface mount red adapter skirt	Use to cover 1-1/2" deep surface mounted boxes 5-3/8" H x 5-1/4" W x 1-5/8" D (136 mm x 133 mm x 41 mm) Total depth with horn = 3-1/8" (79 mm)
4905-9940	Surface mount white adapter skirt	
4905-9931	Adapter Plate, red, for mounting to Simplex, 2975-9145 box (typically for retrofit, may be mounted vertical or horizontal)	8-5/16" x 5-3/4" x 0.060" Thick (211 mm x 146 mm x 1.5 mm)
2975-9145	Red mounting box, requires Adapter Plate 4905-9931	7-7/8" x 5-1/8" x 2-3/4" D (200 mm x 130 mm x 70 mm)

Table 3: Synchronization Control Module

Model	Description	Dimensions
4905-9938	SmartSync Control Module, Class A or Class B, installs in 4" square box; refer to data sheet S4905-0003 for details	4" x 4-1/8" x 1-1/4" D (102 mm x 105 mm x 32 mm)

Table 4: Covers and Guard

Model	Description	Dimensions
4905-9988	Red horn cover with white "FIRE" lettering, available for replacement if required	5-1/8" H x 5" W x 1-1/2" D (130 mm x 127 mm x 38 mm)
4905-9989	White horn cover with red "FIRE" lettering, use to convert cover color on-site	
4905-9961*	Wire guard with mounting plate, red, compatible with semi-flush or surface mounted boxes	6-1/16" H x 6-1/16" W x 3-1/8" D (154 mm x 154 mm x 79 mm)

* UL listed by Space Age Electronics Inc.

4901-9820 TrueAlert Non-Addressable Horn Specifications

Table 5: Horn Specifications

Rated Voltage Range		16 VDC to 33 VDC, see Note 1					
Current Ratings		16 VDC		24 VDC		33 VDC	
		21 mA		23 mA		27 ma	
Sound Output Characteristics		2400 to 3700 Hz sweep, modulated at 120 Hz rate					
Sound Output Ratings @ 10 ft (3 m) (see Note 2)		16 VDC		24 VDC		33 VDC	
	Sound Type (Note 2)	Steady	Coded	Steady	Coded	Steady	Coded
	UL 464 Reverberant Chamber	86 dBA	83 dBA	89 dBA	85 dBA	92 dBA	88 dBA
	Anechoic Chamber	93 dBA	89 dBA	96 dBA	92 dBA	96.3 dBA	92.3 dBA

Table 6: General Specifications

Temperature Range	32° to 122° F (0° to 50° C)
Humidity Range	10% to 93%, non-condensing @ 100° F (38° C)
Connections	Terminal blocks for 18 AWG to 12 AWG (0.82 mm ² to 3.31 mm ²); two wires per terminal for in/out wiring

Note:

1. The rated voltage range listed is the absolute operating range. Operation outside of this range may cause permanent damage. Please note that 16 VDC is the lowest operating voltage that is allowed at the last appliance on the notification appliance circuit under worst case conditions. NAC voltage drops and standby battery calculations should be made using anticipated operating conditions.
2. Coded values are typical of the output measured with a Temporal pattern or a March Time pattern pulse and with a sound level meter reading on a "fast" setting. Under the same test conditions, coded horn output "peak" sound level readings are typically 4 dBA higher. Anechoic horn output ratings are typically more representative of actual installed sound output.

Installation Reference

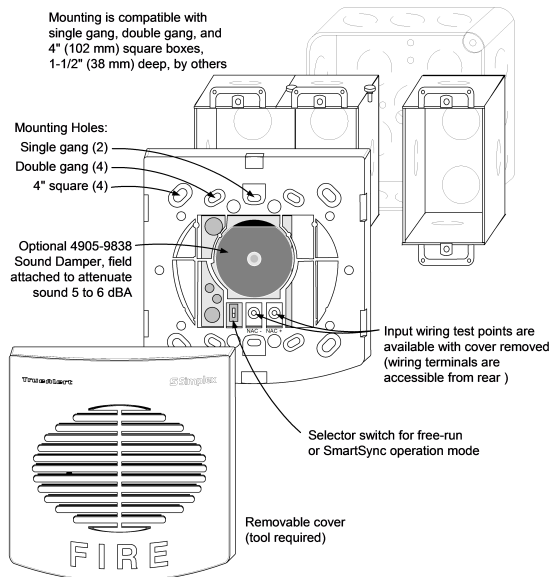


Figure 2: Surface or Semi-Flush Horn Mounting

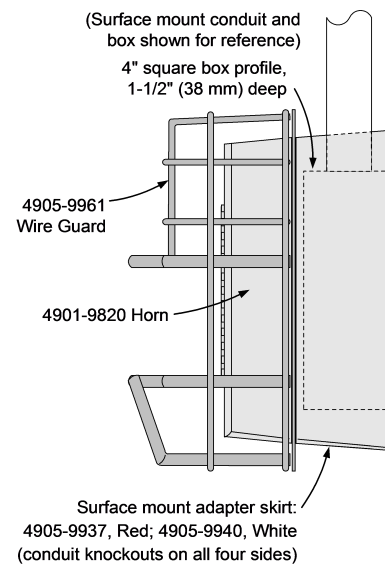
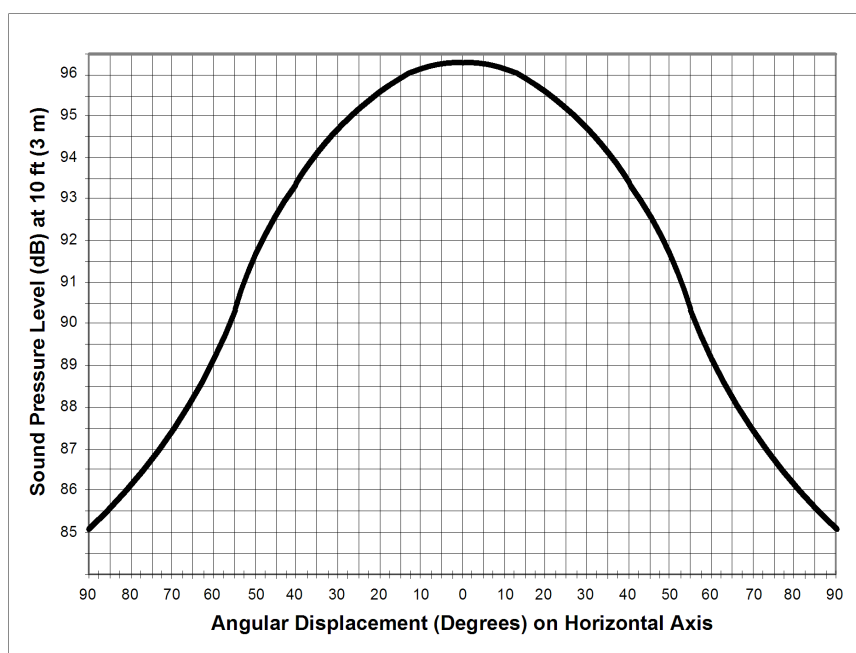
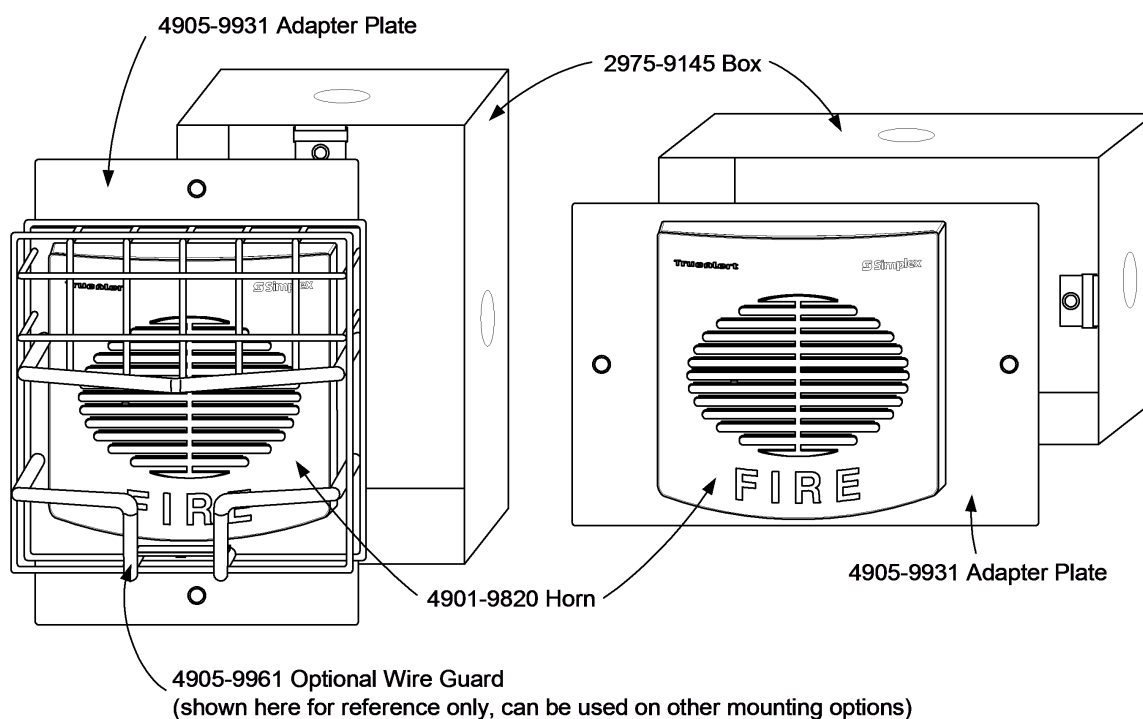


Figure 3: Side View of Horn with Surface Mount Adapter Skirt

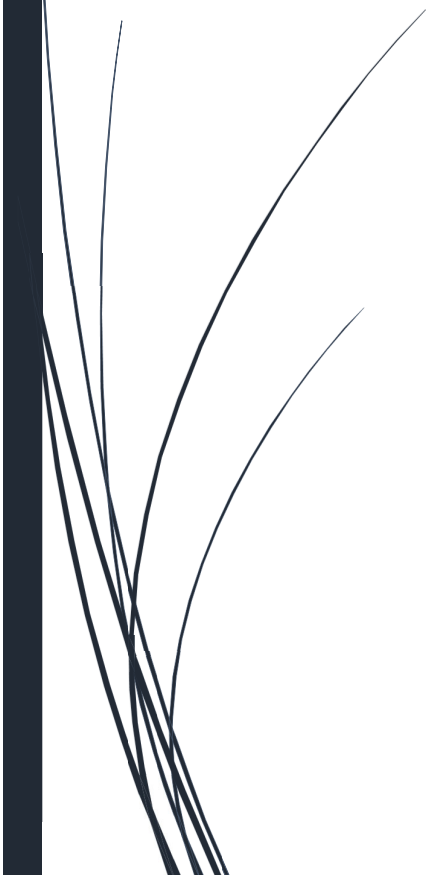
Polar Sound Output per ULC Standard S525



4905-9931 Adapter Plate Installation Information



Indoor Serin 4906-9127





TrueAlert® Multi-Candela Notification Appliances

UL, ULC, CSFM Listed; FM Approved;
MEA (NYC) Acceptance*

SmartSync™ Operation Audible/Visible Notification
with Horn and Synchronized Flash, Non-Addressable

Features

Audible/visible (A/V) notification appliances with efficient electronic horn and high output xenon strobe, available for wall or ceiling mount

- Operation is compatible with ADA requirements (refer to important installation information on page 3)
- Rugged, high impact, flame retardant thermoplastic housings are available in red or white with clear lens

Operates over a two-wire SmartSync circuit to provide:

- Horns that are controlled separately from strobes on the same two-wire circuit
- “On-until-silenced” and “on-until-reset” operation on the same two-wire pair
- SmartSync horn activation of Temporal pattern, March Time pattern (at 60 BPM), or on continuously
- Strobe appliances on the same circuit operating at a synchronized 1 Hz flash rate
- Class B (Style Y) operation requires connection to a compatible SmartSync NAC or to SmartSync Control Module (SCM) 4905-9938
- Class A (Style Z) operation when connected to the 4905-9938 SCM or with 4100U series fire alarm control panel NACs

Wall mount A/Vs features:

- Wiring terminals are accessible from the front of the housing providing easy access for installation, inspection, and testing
- Covers are available separately to convert housing color

Optional adapters and wire guards:

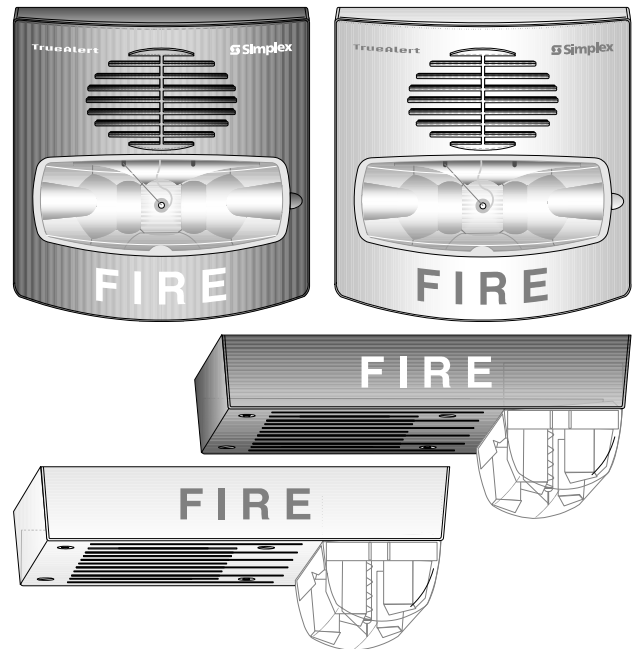
- Wall mount A/V adapters are available to cover surface mounted electrical boxes and to adapt to Simplex® 2975-9145 boxes
- UL listed red wire guards are available for wall or ceiling mount A/Vs

Visible notification appliance (strobe):

- 24 VDC xenon strobe; intensity is selectable as 15, 30, 75, or 110 candela with visible selection jumper secured behind strobe housing
- UL listed to Standard 1971
- Regulated circuit design ensures consistent flash output and provides controlled inrush current

Audible notification appliance (horn):

- Low current, 24 VDC electronic horn with harmonically rich sound output suitable for either steady or coded operation (Temporal or 60 BPM March Time pattern)
- UL listed to Standard 464



Wall and Ceiling Mount A/Vs

Description

Multi-Candela TrueAlert A/Vs with horn and synchronized strobe

provide convenient installation to standard electrical boxes. The enclosure designs are both impact and vandal resistant and provide a convenient strobe intensity selection. Since each model can be selected for strobe intensity output, on-site model inventory is minimized and changes encountered during construction can be easily accommodated.

Wall mount A/V housings are a one-piece assembly (including lens) that mounts to a single or double gang, or 4” square standard electrical box. The cover can be quickly removed (a tool is required) and covers are available separately for color conversion.

Ceiling mount A/Vs install using standard 4” electrical boxes. Color choice is determined by model number.

Strobe Intensity Selection

During installation, a selection plug at the back of the housing determines the desired strobe intensity. An attached flag with black letters on a highly visible yellow background allows the selected intensity to be seen at the side of the strobe lens.

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7125-0026:317 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Accepted for use – City of New York Department of Buildings – MEA35-93E. Refer to page 2 for listing status of wire guards. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.

** Simplex multi-candela SmartSync two-wire horn/strobe appliance operation is protected under one or more of the following U.S. Patent Numbers: 5,559,492; 5,622,427; 5,865,527; 5,886,620; 6,281,789; 6,954,137; 7,005,971; and 7,006,003.

Strobe Application Selection

Proper selection of visible notification is dependent on occupancy, location, local codes, and proper applications of: the *National Fire Alarm Code* (NFPA 72), ANSI A117.1; the appropriate model building code: BOCA, ICBO, or SBCCI; and the application guidelines of the Americans with Disabilities Act (ADA).

Synchronized Strobes

Multiple Strobes. When multiple strobes and their reflections can be seen from one location, synchronized flashes reduce the probability of photo-sensitive reactions as well as the annoyance and possible distraction of random flashing. The multi-candela strobes of these A/Vs are synchronized by the controlling SmartSync operation NAC.

Product Selection

Multi-Candela A/Vs

Model	Mounting	Housing Color	"FIRE" Lettering	Description
4906-9127	Wall	Red	White	Horn with Multi-Candela Strobe; strobe intensity selectable as: 15, 30, 75, or 110 candela; operates with SmartSync two-wire control
4906-9129		White	Red	
4906-9128	Ceiling	Red	White	
4906-9130		White	Red	

Wall Mount A/V Adapters

Model	Description	Dimensions
4905-9937	Red Surface Mount Adapter Skirt; use to cover 1-1/2" (38 mm) deep surface mounted boxes	5-3/8" H x 5-1/4" W x 1-5/8" D (136 mm x 133 mm x 41 mm) depth with strobe = 4-3/8" (111 mm)
4905-9940		
4905-9931	Red Adapter Plate for mounting to Simplex 2975-9145 box (typically for retrofit, may be mounted vertical or horizontal)	8-5/16" x 5-3/4" x 0.060" Thick (211 mm x 146 mm x 1.5 mm)
2975-9145	Red Mounting Box, requires Adapter Plate 4905-9931	7-7/8" x 5-1/8" x 2-3/4" D (200 mm x 130 mm x 70 mm)

SmartSync Control Module

Model	Description	Dimensions
4905-9938	SmartSync Control Module with Class B or Class A output; mounts in 4" (102 mm) square box; refer to data sheet S4905-0003 for details	4" x 4-1/8" x 1-1/4" D (102 mm x 105 mm x 32 mm)

Replacement Covers for Wall Mount A/Vs

Model	Description	Dimensions
4905-9994	Red cover with white "FIRE" lettering	5-1/8" H x 5" W x 1-1/2" D (130 mm x 127 mm x 38 mm)
4905-9995	White cover with red "FIRE" lettering	

Wire Guards and Ceiling Mount A/V Adapter

Model	Description	Dimensions
4905-9961*	Wall mount red wire guard with mounting plate, compatible with semi-flush or surface mounted boxes	6-1/16" H x 6-1/16" W x 3-1/8" D (154 mm x 154 mm x 79 mm)
4905-9927*	Red Wire Guard for mounting to flush mounted electrical box	8-1/2" x 6-1/8" x 3" (216 mm x 156 mm x 76 mm)
4905-9928*	Ceiling Mount Red Adapter Plate, required to mount guard to surface mounted electrical box	9" x 7" (229 mm x 178 mm)
4905-9915	White Surface Mount Adapter Box Extension, use to cover 1-1/2" deep surface mounted boxes	4-3/4" x 6-7/8" x 1-1/2" deep, (121 mm x 175 mm x 38 mm)
4905-9916		

* UL listed by Space Age Electronics Inc.

SmartSync Two-Wire Control

SmartSync operation mode allows a two-wire circuit to provide the ability to activate both the horn and strobe on the same NAC and then allow the horn to be silenced while the strobe remains flashing. The horn operates as "on-until-silenced" while the strobe operation is "on-until-reset."

SmartSync Control Sources

- **4006, 4008, 4100U, and 4010 Fire Alarm Control Panels** (refer to individual product data sheets for more information)
- **4009 IDNet NAC Extender** (refer to data sheet S4009-0002)
- **SmartSync Control Module (SCM)** 4905-9938 (refer to data sheet S4905-0003)

Additional SmartSync compatible notification appliances include separate horns and combination horn/strobe notification appliances.

A/V Specifications

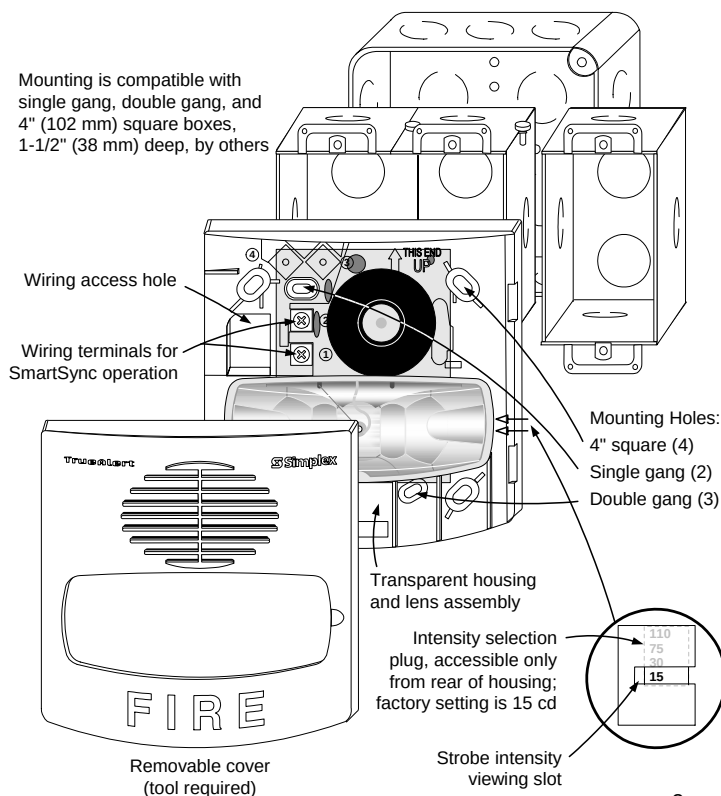
Wall Mount or Ceiling Mount, Common Specifications

Rated Voltage Range		UL Listed Rating	Regulated 24 DC; see Note 1 below					
		ULC Listed Rating	20 VDC to 30 VDC per ULC S526-M878					
Flash Rate and Synchronized NAC Loading			1 Hz; with up to 35 synchronized strobes maximum per NAC					
Environmental; Temperature and Humidity			32° to 122° F (0° to 50° C); 10% to 93%, non-condensing at 100° F (38° C)					
Connections			Terminal blocks for 18 AWG to 12 AWG (0.82 mm ² to 3.31 mm ²) ; two wires per terminal for in/out wiring					
Horn Output Characteristics			2400 to 3700 Hz sweep, modulated at 120 Hz rate					
Horn Output Ratings @ 10 ft (3 m) (see Note 2)	Voltage		16 VDC		24 VDC		33 VDC	
	Sound Type (see Note 2)		Steady	Coded	Steady	Coded	Steady	Coded
	UL 464 Reverberant Chamber		86 dBA	82 dBA	88 dBA	84 dBA	90 dBA	86 dBA
	Anechoic Chamber		92 dBA	91 dBA	94 dBA	95 dBA	96 dBA	96 dBA
Wall Mount	Housing Dimensions (with lens)		5-1/8" H x 5" W x 2-3/4" D (130 mm x 127 mm x 70 mm)					
	Maximum RMS Current Rating per Strobe Setting (see Note 3 below)		15 cd	30 cd	75 cd	110 cd		
			75 mA	116 mA	221 mA	285 mA		
	Reference RMS Currents at other voltages		18 VDC	70 mA	101 mA	184 mA	243 mA	
24 VDC			60 mA	84 mA	143 mA	185 mA		
Ceiling Mount	Housing Dimensions (with lens)		4-3/4 L" x 6-7/8" W x 2-5/8" D (121 mm x 175 mm x 67 mm)					
	Maximum RMS Current Rating per Strobe Setting (see Note 3 below)		15 cd	30 cd	75 cd	110 cd		
			86 mA	132 mA	250 mA	320 mA		
	Reference RMS Currents at other voltages		18 VDC	81 mA	119 mA	216 mA	283 mA	
24 VDC			70 mA	97 mA	167 mA	217 mA		

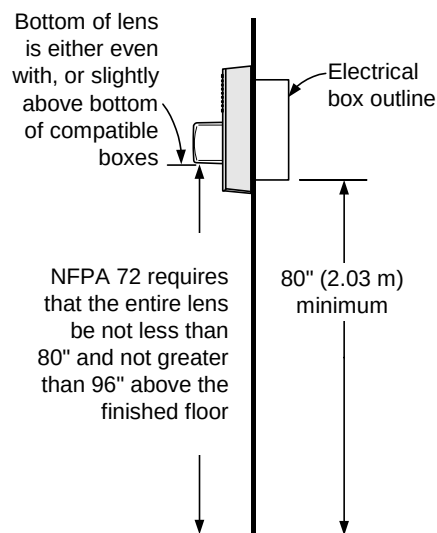
NOTES:

1. "Regulated 24 DC" refers to the voltage range of 16 to 33 VDC per UL Standard 1971, *Signaling Devices for the Hearing Impaired*, changes effective May 1, 2004. This voltage range is the absolute operating range. Operation outside of this range may cause permanent damage to the appliance. Please note that 16 VDC is the lowest operating voltage that is allowed at the last appliance on the NAC under worst case conditions.
2. Coded values are typical of the output measured with a Temporal coded or a March Time coded pulse and with a sound level meter reading on a "fast" setting. Under the same test conditions, coded horn output "peak" sound level readings are typically 4 dBA higher. Anechoic horn output ratings are typically more representative of actual installed sound output.
3. Currents are with horn on steady. The maximum RMS current listed is the device nameplate rating. Strobe designs are constant wattage and the maximum RMS current rating occurs at the lowest allowable operating voltage. (RMS is root mean square and refers to the effective value of a varying current waveform.)

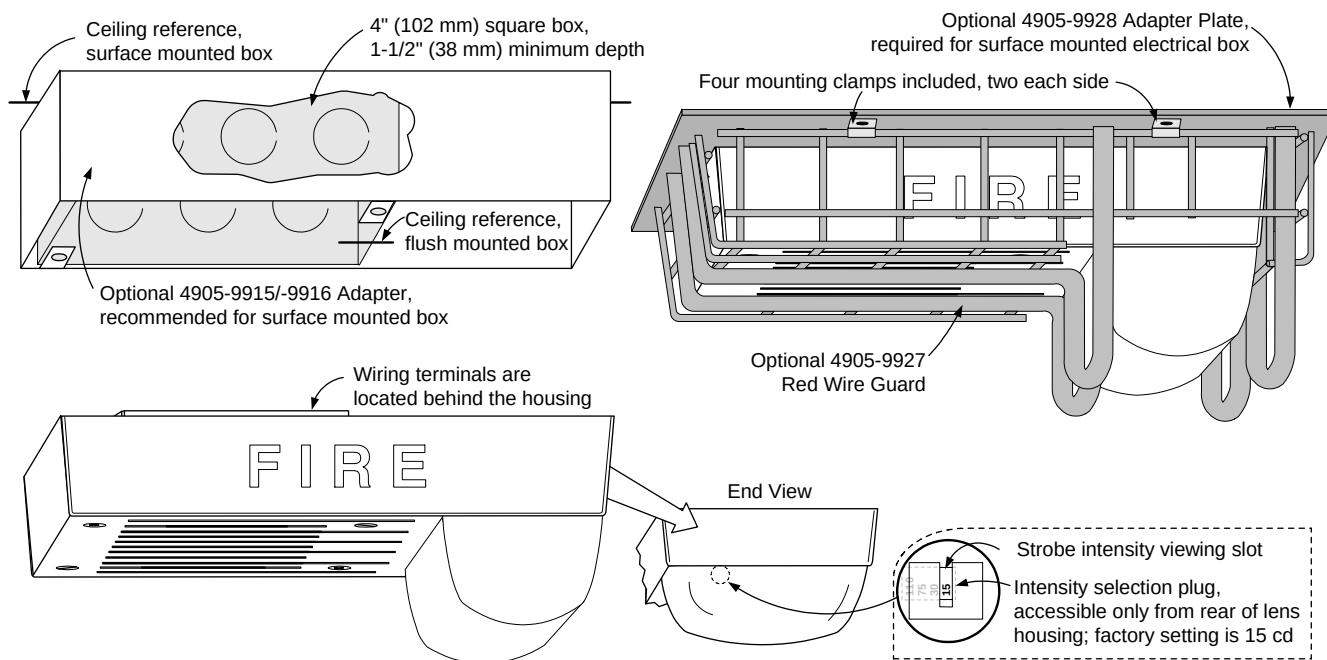
Installation Reference, Surface or Semi-Flush Mounting



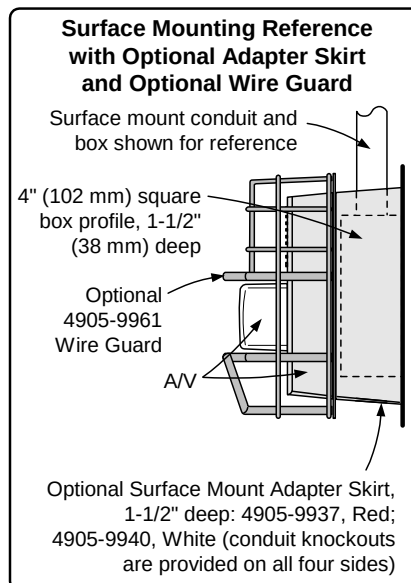
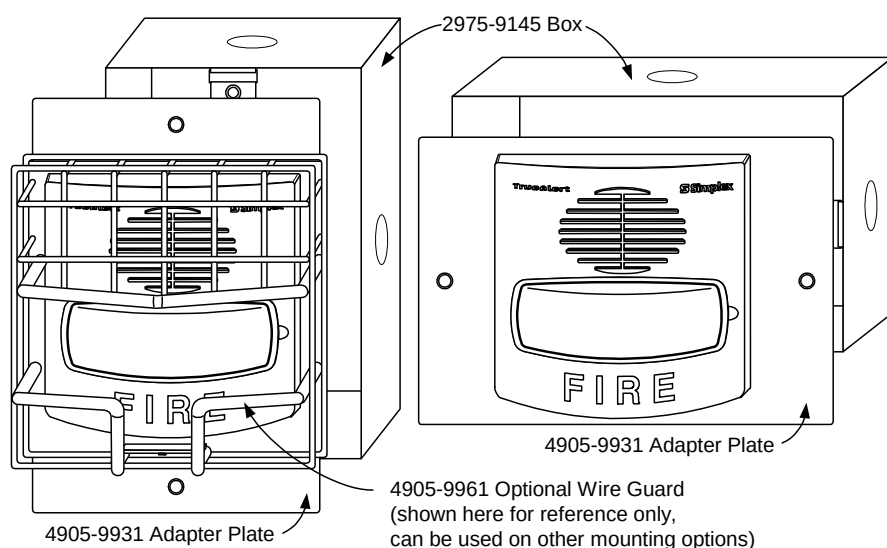
IMPORTANT! WALL MOUNT INSTALLATION HEIGHT REFERENCE



Ceiling Mount A/V and Guard Installation Reference



Wall Mount Installation Reference; Adapter Plate, Guard, and Adapter Skirt



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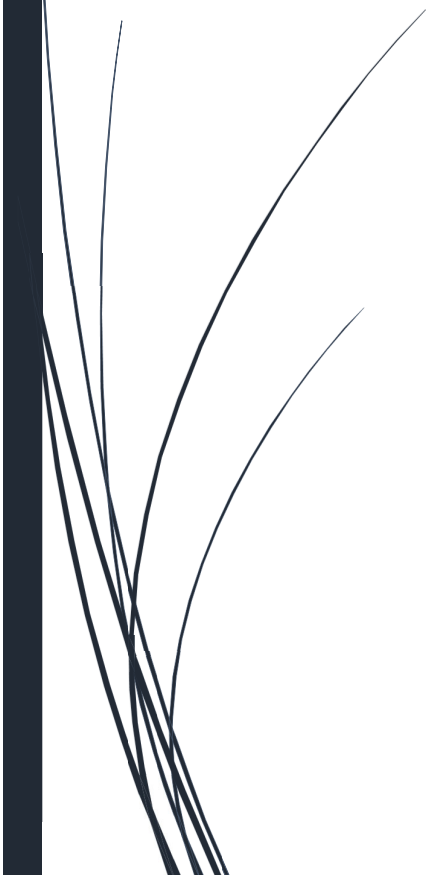


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S4906-0002-3 6/2006

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Out Door Serin 4906-9131





TrueAlert® Multi-Candela Notification Appliances

UL, ULC, CSFM Listed;
FM Approved*

Weatherproof Notification Appliances (non-addressable)
Wall Mount Visible Only (V/O) and Audible/Visible (A/V)

Features

Weatherproof 24 VDC notification appliances for extended temperature and extended humidity operation:

- NEMA 3R rated enclosure with ratings for indoor or outdoor applications
- Rugged, high impact, flame retardant thermoplastic housings are available in red or white with clear lens
- Red housings are for indoor or outdoor applications and provide UV light stable color
- White housings are for indoor applications with limited UV light exposure
- Mounting is to matching weatherproof boxes (required), ordered separately
- Wiring terminals are accessible from the front of the housing providing easy access for installation, inspection, and testing

Agency listings reference:

- UL listed to Standard 1638 for outdoor applications with strobe rated at 75 cd (WP75)
- UL listed to Standard 1971 for indoor applications with strobe intensity selectable as 15, 60, or 75 candela; indoor applications are compatible with ADA requirements (refer to important installation information on page 4)
- Separate models are ULC listed to Standard S526 (strobes) and S525 (horns) for outdoor applications with strobe intensity selectable as 5, 20, or 30 candela (available in red only)

Operation details:

- A visible intensity selection jumper is secured behind the strobe housing
- Polarized input allows connection to compatible reverse polarity, supervised notification appliance circuit (NAC)
- Regulated circuit design ensures consistent flash output and provides controlled inrush current
- A/V appliances have an efficient electronic horn

Synchronized strobe compatibility:

- Simplex® fire alarm control panels and NAC Extenders when selected to provide strobe synchronization or SmartSync™ two-wire control**
- Separate strobe Synchronization Modules or SmartSync Control Modules (SCMs) that convert conventional NAC inputs to a Smartsync output

SmartSync two-wire operation provides:

- Horns controlled separately from strobes on the same two-wire circuit, activated as Temporal pattern, March Time pattern (at 60 BPM), or on continuously



Weatherproof A/V (top) and Strobe (middle), side view of A/V on Weatherproof Mounting Boxes (bottom)

Description

Weatherproof multi-candela TrueAlert appliances provide V/O and A/V SmartSync operation for indoor and outdoor, extended temperature and extended humidity applications. The enclosures are impact and vandal resistant and provide a convenient strobe intensity selection. Since each model can be selected for intensity output, on-site model inventory is minimized and changes encountered during construction can be easily accommodated.

Strobe Intensity Selection

During installation, a selection plug at the back of the housing determines the desired strobe intensity. An attached flag with black letters on a yellow background allows the selected intensity to be seen at the side of the strobe lens.

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7125-0026:331 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.

** Simplex multi-candela SmartSync two-wire horn/strobe appliance operation is protected under one or more of the following U.S. Patent Numbers: 5,559,492; 5,622,427; 5,865,527; 5,886,620; 6,281,789; 6,954,137; 7,005,971; and 7,006,003.

Strobe Application Reference

Proper selection of weatherproof notification is dependent on occupancy, location, local codes, and proper applications of: the *National Fire Alarm Code* (NFPA 72), ANSI A117.1; the appropriate model building code: BOCA, ICBO, or SBCCI; and the application guidelines of the Americans with Disabilities Act (ADA). Requirements may differ from indoor appliance applications, contact your local authority having jurisdiction (AHJ) to assist in determining requirements.

SmartSync Two-Wire Control

SmartSync operation mode allows a two-wire circuit to provide the ability to activate both the horn and strobe on the same NAC and then allow the horn to be silenced while the strobe remains flashing. The horn operates as “on-until-silenced” while the strobe operation is “on-until-reset.”

SmartSync Control Sources

SmartSync two-wire control is available from:

- 4006, 4008, 4100U, and 4010 Fire Alarm Control Panels (refer to individual product data sheets for more information)
- 4009 IDNet NAC Extenders (refer to data sheet S4009-0002)
- SmartSync Control Module (SCM) Model 4905-9938 (refer to data sheet S4905-0003)
- Additional SmartSync compatible notification appliances include separate horns and combination horn/strobe notification appliances.

Product Selection

UL Listed TrueAlert Weatherproof Multi-Candela Notification Appliances

Model	Type	Housing	“FIRE” Lettering	Description	UL 1971 Intensity Rating	UL 1638 Intensity Rating
4906-9105	Strobe (V/O)	Red	White	UL listed weatherproof appliance with multi-candela strobe; requires weatherproof box below	15, 60, or 75 cd	75 cd (setting WP75)
4906-9106		White	Red			
4906-9131	Horn/Strobe (A/V)	Red	White			
4906-9132		White	Red			

ULC Listed TrueAlert Weatherproof Multi-Candela Notification Appliances

Model	Type	Housing	“FIRE” Lettering	Description	ULC Intensity Ratings
4906-9113	Strobe (V/O)	Red	White	ULC listed weatherproof appliance with multi-candela strobe; requires weatherproof box below	5, 20, or 30 cd
4906-9143	Horn/Strobe (A/V)				

Wall Mount Weatherproof Boxes (Required)

Model	Description	Dimensions
4905-9828	Red	Surface Mount Weatherproof Mounting boxes 5-1/2" H x 6-1/8" W x 1-5/8" D (140 mm x 156 mm x 41 mm)
4905-9829	White	

Aftermarket Red Bilingual (French/English) Covers (for field installation)

Model	Description	
4905-9832	Red strobe (V/O) cover	White “FEU/FIRE” lettering
4905-9833	Red horn/strobe (A/V) cover	

Synchronization Module Reference (refer to data sheet S4905-0003 for additional information)

Model	Description	Dimensions
4905-9914	Class B	Synchronized Flash Module; epoxy encapsulated with in/out 18 AWG (0.82 mm ²) wire leads, rated for 2 A NAC, requires 10 mA for power 1-3/8" x 2-7/16" x 13/16" (35 mm x 62 mm x 20 mm)
4905-9922	Class A	
4905-9938	SmartSync Control Module with Class B or Class A output; mounts in 4" (102 mm) square box	4" x 4-1/8" x 1-1/4" D (102 mm x 105 mm x 32 mm)

Specifications

Rated Voltage Range		Regulated 24 VDC; see Note 1 below
Flash Rate		1 Hz; Up to 24 synchronized strobes maximum per NAC
Temperature Range	UL 1971 Listed Rating	32° to 122° F (0° to 50° C); selectable 15/30/75 cd
	UL 1638 Listed Rating	-31°F to 150°F (-35° C to 66°C); 75 cd rating
	ULC S526 & S525 Listed Rating	-40°F to 150°F (-40° C to 66°C); 5/20/30 cd rating
Humidity Range	UL 1971 Listed Rating	10% to 93%, at 100° F (38° C)
	UL 1638, ULC S526, & ULC S525	up to 98%, at 104 °F (40° C)
Wiring Connections		Terminal blocks for 18 AWG to 12 AWG (0.82 mm ² to 3.31 mm ²); two wires per terminal for in/out wiring

Horn Output; Models 4906-9131, 4906-9132, & 4906-9143; UL & ULC Ratings as noted

Output Sound Characteristics	2400 to 3700 Hz sweep, modulated at 120 Hz rate						
Horn Output Ratings @ 10 ft (3 m) (see Note 2)	Voltage	16 VDC		24 VDC		33 VDC	
	Sound Type (see Note 2)	Steady	Coded	Steady	Coded	Steady	Coded
	UL 464 Reverberant Chamber	80 dBA	76 dBA	83 dBA	79 dBA	86 dBA	81 dBA
	ULC S525 Anechoic Chamber	96 dBA	96 dBA	99 dBA	99 dBA	101 dBA	101 dBA

Maximum RMS Current Ratings (see Note 3 below)

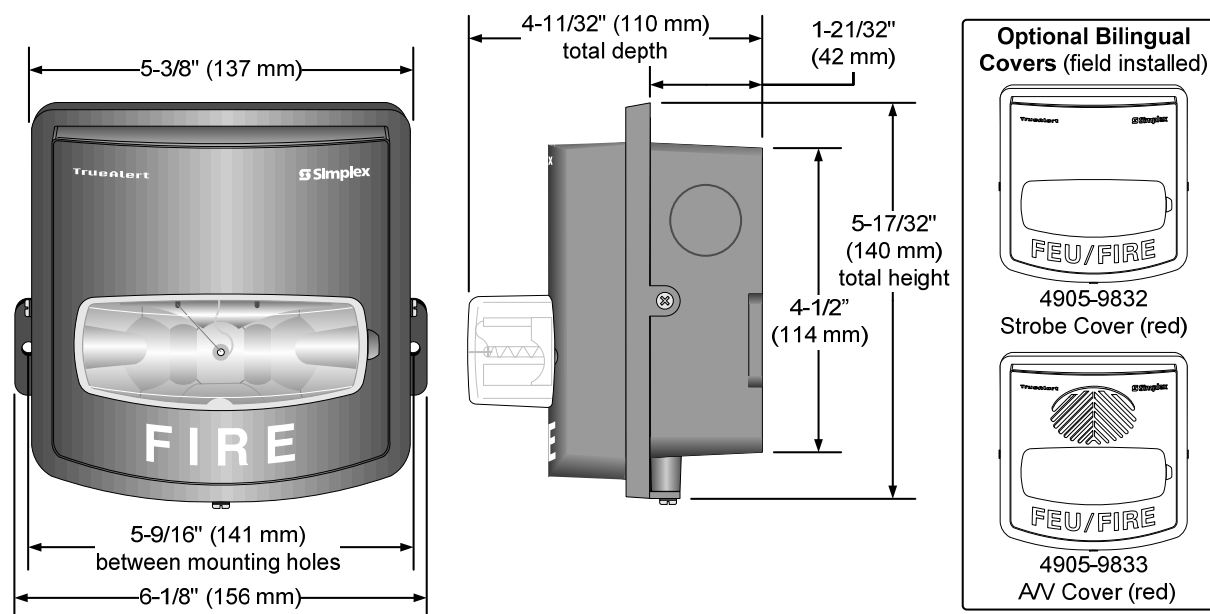
Model	Intensity Selection/Temperature	UL 1971 Ratings (32° F to 122° F)			UL 1638 Ratings 75 cd (WP75)	
		15 cd	60 cd	75 cd	32° F to 150°F (0° C to 66°C)	-31° F to below 32°F (-35° C to 0° C)
V/O Models 4906-9105 & 4906-9106		77 mA	192 mA	231 mA	189 mA	273 mA
A/V Models 4906-9131 & 4906-9132		91 mA	204 mA	249 mA	205 mA	277 mA

Model	ULC S526/S525 Ratings per Intensity Selection		
	5 cd	20 cd	30 cd
V/O Model 4906-9113	115 mA	270 mA	295 mA
A/V Model 4906-9143	125 mA	275 mA	322 mA

NOTES:

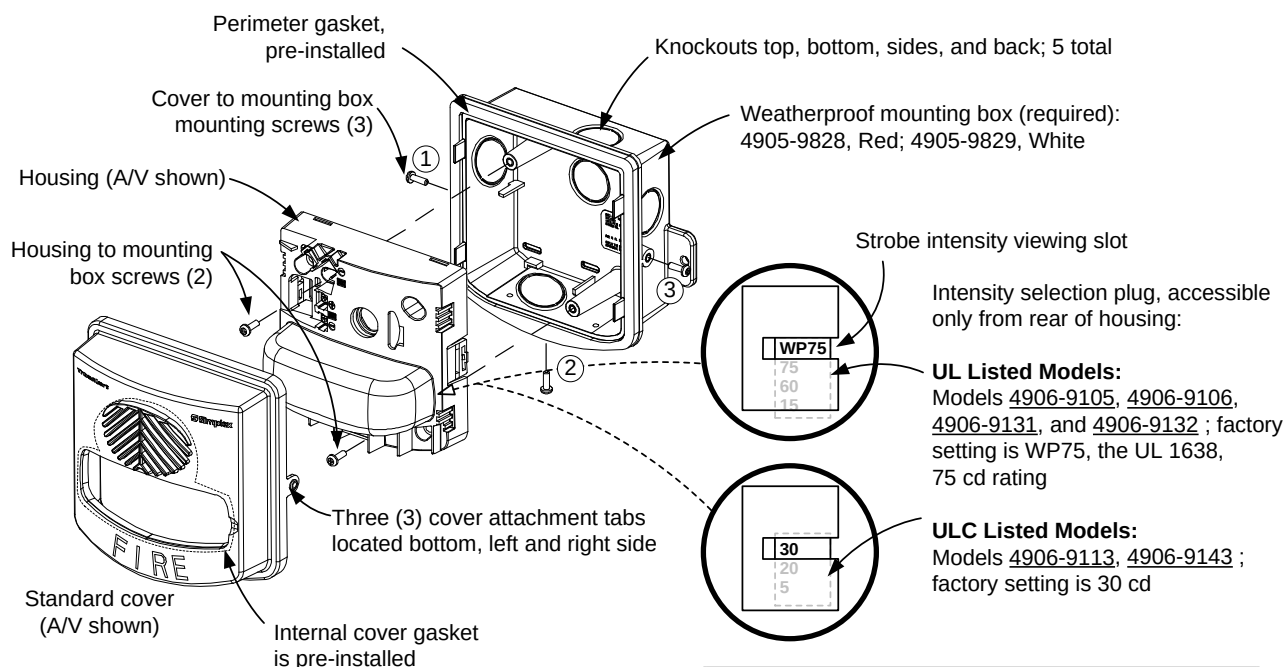
1. "Regulated 24 VDC" refers to the voltage range of 16 to 33 VDC per UL 1971 and UL 1638. This voltage range is the absolute operating range. Operation outside of this range may cause permanent damage to the strobe. Please note that 16 VDC is the lowest operating voltage that is allowed at the last appliance on the NAC under worst case conditions.
2. Coded values are typical of the output measured with a Temporal coded or a March Time coded pulse and with a sound level meter reading on a "fast" setting. Under the same test conditions, coded horn output "peak" sound level readings are typically 4 dBA higher. Anechoic horn output ratings are typically more representative of actual installed sound output
3. Currents of A/Vs are with horn on steady. The maximum RMS current listed is the device nameplate rating. Strobe designs are constant wattage and the maximum RMS current rating occurs at the lowest allowable operating voltage. (RMS is root mean square and refers to the effective value of a varying current waveform.)

Dimension and Optional Cover Reference

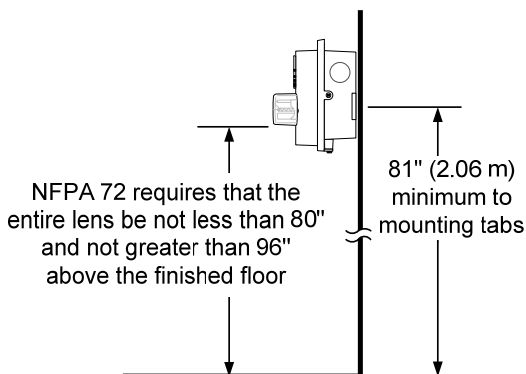


Weatherproof Appliance Installation Reference

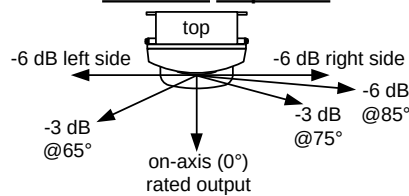
NOTE: For detailed installation information, refer to Installation Instructions 579-857 for UL listed products, and Installation Instructions 579-885 for ULC listed products.



IMPORTANT! INDOOR WALL MOUNT INSTALLATION HEIGHT REFERENCE

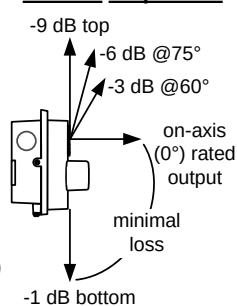


Horizontal Dispersion



A/V Sound Dispersion per ULC S525
(anechoic testing performed at 3 m (10 ft))

Vertical Dispersion



Polar Light Dispersion Reference, Each Intensity Selection; Percent of Rated Light Output at 77° F (25° C)

Vertical Dispersion			Horizontal Dispersion		
Angle Below Axis	UL 1971 Minimum	Typical Output	Angle from Axis	UL 1971 Minimum	Typical Output
0	100%	322%	0	100%	320%
5	90%	217%	±5	90%	214%
10	90%	168%	±10	90%	177%
15	90%	179%	±15	90%	175%
20	90%	210%	±20	90%	174%
25	90%	184%	±25	90%	170%
30	90%	149%	±30	75%	169%
35	65%	172%	±35	75%	157%
40	46%	189%	±40	75%	151%
45	34%	203%	±45	75%	138%
50	27%	152%	±50	55%	130%
55	22%	166%	±55	45%	121%
60	18%	166%	±60	40%	117%
65	16%	164%	±65	35%	109%
70	15%	163%	±70	35%	105%
75	13%	159%	±75	30%	98%
80	12%	138%	±80	30%	90%
85	12%	113%	±85	25%	78%
90	12%	88%	±90	25%	67%

WP75 Intensity Selection Light Output Reference

Angle	On-Axis 0°	Vertical, Below Axis		Horizontal, Left/Right of Axis	
		45°	90°	45°	90°
UL 1638 Minimum Candela Rating (over temperature range)	75	35	10	32	15
Typical Candela at 77° F (25° C)	215	103	24	94	39

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TrueAlert® Multi-Candela Notification Appliances

UL, ULC, CSFM Listed; FM Approved;
MEA (NYC) Acceptance*

Visible Notification Appliances with Synchronized Flash;
Non-Addressable, SmartSync™ Operation Compatible

Features

Visible only (V/O) 24 VDC notification appliances with high output xenon strobe, available for wall or ceiling mount:

- UL listed to Standard 1971
- Intensity is selectable as 15, 30, 75, or 110 candela with visible selection jumper secured behind strobe housing
- Operation is compatible with ADA requirements (refer to important installation information on page 3)
- Polarized input allows connection to compatible reverse polarity, supervised notification appliance circuit (NAC)
- Regulated circuit design ensures consistent flash output and provides controlled inrush current
- Rugged, high impact, flame retardant thermoplastic housings are available in red or white with clear lens

Strobes provide synchronized flash for use with:

- 4006, 4008, 4010, and 4100U Series fire alarm control panels with NACs selected to provide strobe synchronization or SmartSync two-wire control**
- 4009 IDNet™ NAC Extenders
- Separate strobe Synchronization Modules that are available for Class B or Class A operation
- Separate SmartSync Control Modules (SCMs) that provide Class B or Class A output from conventional NAC inputs

Strobe housings provides flexible, easy, and convenient semi-flush or surface wall mounting:

- Rear of housing does not extend into box
- Wall mount strobes easily mount to single gang, double gang, or 4-inch square outlet box
- Ceiling mount strobes mount to single gang boxes

Wall mount strobe features:

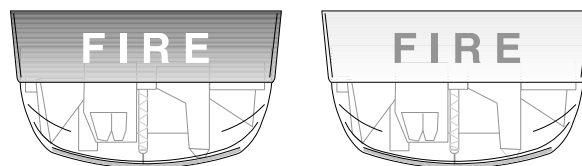
- Wiring terminals are accessible from the front of the housing providing easy access for installation, inspection, and testing
- Covers are available separately to convert housing color

Optional adapters and wire guards:

- Wall mount strobe adapters are available to cover surface mounted electrical boxes and to adapt to Simplex® 2975-9145 boxes
- UL listed red wire guards are available for wall or ceiling mount strobes



Wall Mount Strobes



Ceiling Mount Strobes

Description

Multi-Candela TrueAlert synchronized strobes

provide convenient installation to standard electrical boxes. The enclosure designs are both impact and vandal resistant and provide a convenient strobe intensity selection. Since each model can be selected for intensity output, on-site model inventory is minimized and changes encountered during construction can be easily accommodated.

Wall mount strobe housings are a one-piece assembly (including lens) that mounts to a single or double gang, or 4" square standard electrical box. The cover can be quickly removed (a tool is required) and covers are available separately for color conversion.

Ceiling mount strobes install using standard single gang electrical boxes. Color choice is determined by model number.

Strobe Intensity Selection

During installation, a selection plug at the back of the housing determines the desired strobe intensity. An attached flag with black letters on a highly visible yellow background allows the selected intensity to be seen at the side of the strobe lens.

Strobe Application Reference

Proper selection of visible notification is dependent on occupancy, location, local codes, and proper applications of: the *National Fire Alarm Code* (NFPA 72), ANSI A117.1; the appropriate model building code: BOCA, ICBO, or SBCCI; and the application guidelines of the Americans with Disabilities Act (ADA).

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7125-0026:316 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Refer to page 2 for listing status of wire guards. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.

** Simplex multi-candela SmartSync two-wire horn/strobe appliance operation is protected under one or more of the following U.S. Patent Numbers: 5,559,492; 5,622,427; 5,865,527; 5,886,620; 6,281,789; 6,954,137; 7,005,971; and 7,006,003.

Synchronized Strobes

Multiple Strobes. When multiple strobes and their reflections can be seen from one location, synchronized flashes reduce the probability of photo-sensitive reactions as well as the annoyance and possible distraction of random flashing. These multi-candela strobes are synchronized over a two-wire circuit when connected to compatible NACs, to compatible Synchronized Flash Modules, or to SmartSync Control Modules.

SmartSync Two-Wire Control

Some applications desire the audible notification appliances to be capable of being silenced before the alarm condition is reset (on-until-silenced) while the visible notification appliances are kept activated until the alarm condition is reset (on-until-reset). SmartSync operation mode provides this function using a single circuit (two-wire operation).

SmartSync Control Sources

Class B SmartSync two-wire control is available from:

- **4006, 4008, 4100U, and 4010 Fire Alarm Control Panels** (refer to individual product data sheets for more information)
- **4009 IDNet NAC Extender** (refer to data sheet S4009-0002)
- **SmartSync Control Module (SCM)** 4905-9938 (refer to data sheet S4905-0003)

Class A SmartSync two-wire control is available from 4100U NACs and from the 4905-9938 SCM.

Additional SmartSync compatible notification appliances include separate horns and combination horn/strobe notification appliances.

Product Selection

Multi-Candela Visible Notification Appliances (Strobes)

Model	Mounting	Housing Color	"FIRE" Lettering	Description
4906-9101	Wall	Red	White	Multi-candela strobe with intensity selectable as: 15, 30, 75, or 110 candela; synchronized flash rate; SmartSync two-wire control compatible
4906-9103		White	Red	
4906-9102	Ceiling	Red	White	
4906-9104		White	Red	

Wall Mount Strobe Adapters

Model	Description		Dimensions
4905-9937	Red	Surface Mount Adapter Skirt; use to cover 1-1/2" (38 mm) deep surface mounted boxes	5-3/8" H x 5-1/4" W x 1-5/8" D (136 mm x 133 mm x 41 mm)
4905-9940	White		Total depth with strobe = 4-3/8" (111 mm)
4905-9931	Red Adapter Plate for mounting to Simplex 2975-9145 box (typically for retrofit, may be mounted vertical or horizontal)		8-5/16" x 5-3/4" x 0.060" Thick (211 mm x 146 mm x 1.5 mm)
2975-9145	Red Mounting Box, requires Adapter Plate 4905-9931		7-7/8" x 5-1/8" x 2-3/4" D (200 mm x 130 mm x 70 mm)

Ceiling Mount Strobe Adapter

Model	Description	Dimensions
4905-9910	Surface Mount Adapter Plate; zinc plated; required for mounting to handy box; not needed when using 4905-9926 guard	4-7/8" x 3-1/8" x 0.060" D (124 mm x 79 mm x 1.5)

Synchronization Modules (refer to data sheet S4905-0003 for additional information)

Model	Description		Dimensions
4905-9914	Class B	Synchronized Flash Module; epoxy encapsulated with in/out 18 AWG (0.82 mm ²) wire leads, rated for 2 A NAC, requires 10 mA for power	1-3/8" x 2-7/16" x 13/16" (35 mm x 62 mm x 20 mm)
4905-9922	Class A		
4905-9938	SmartSync Control Module with Class B or Class A output; mounts in 4" (102 mm) square box		4" x 4-1/8" x 1-1/4" D (102 mm x 105 mm x 32 mm)

Replacement Covers and Guards

Model	Description		Dimensions
4905-9992	Red cover with white "FIRE" lettering	For Wall mount strobes	5-1/8" H x 5" W x 1-1/2" D (130 mm x 127 mm x 38 mm)
4905-9993	White cover with red "FIRE" lettering		
4905-9961*	Wall mount	Red wire guard with mounting plate, compatible with semi-flush or surface mounted boxes	6-1/16" H x 6-1/16" W x 3-1/8" D (154 mm x 154 mm x 79 mm)
4905-9926*	Ceiling mount		6-1/8" x 4-3/8" x 2-7/8" deep (156 mm x 111 mm x 73 mm)

* UL listed by Space Age Electronics Inc.

Strobe Specifications

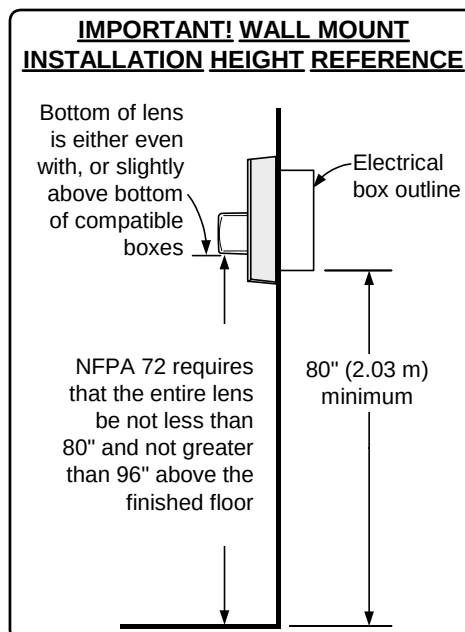
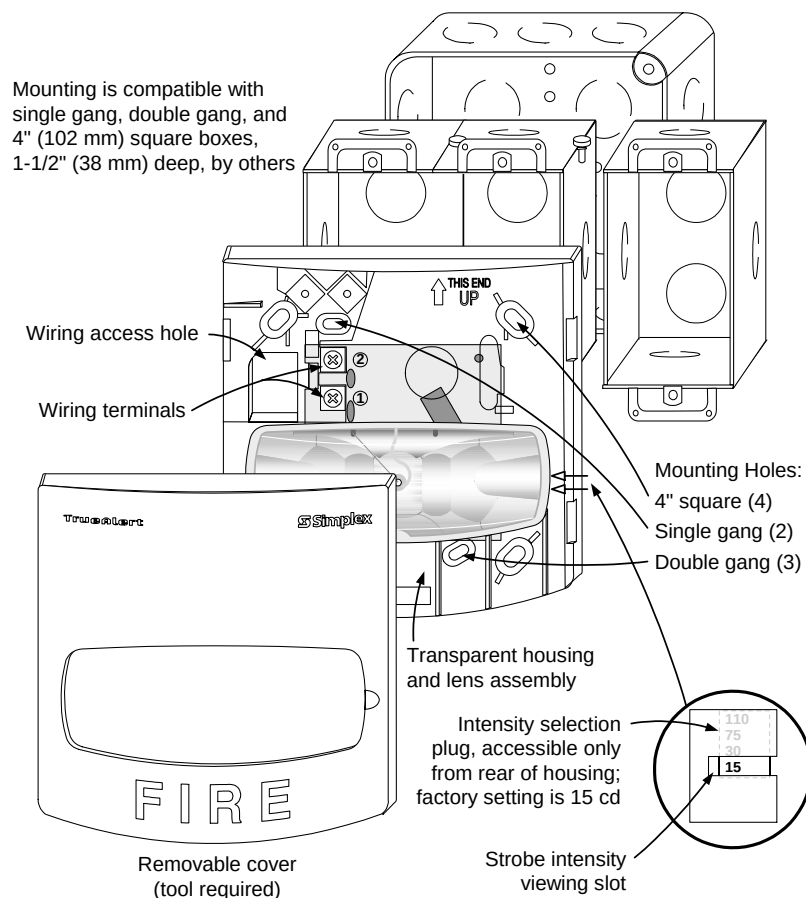
Wall Mount or Ceiling Mount, Common Specifications

Rated Voltage Range		UL Listed Rating	Regulated 24 VDC; see Note 1 below			
		ULC Listed Rating	20 VDC to 30 VDC per ULC S526-M878			
Flash Rate		1 Hz				
Synchronized NAC Loading		Up to 35 synchronized strobes maximum per NAC				
Temperature Range		32° to 122° F (0° to 50° C)				
Humidity Range		10% to 93%, non-condensing at 100° F (38° C)				
Connections		Terminal blocks for 18 AWG to 12 AWG (0.82 mm ² to 3.31 mm ²); two wires per terminal for in/out wiring				
Wall Mount	Housing Dimensions (with lens)		5-1/8" H x 5" W x 2-3/4" D (130 mm x 127 mm x 70 mm)			
	Maximum RMS Current Rating per Strobe Setting (see Note 2 below)		15 cd	30 cd	75 cd	110 cd
			60 mA	94 mA	186 mA	252 mA
	Reference RMS Currents	18 VDC	55 mA	85 mA	169 mA	226 mA
	24 VDC	41 mA	63 mA	123 mA	164 mA	
Ceiling Mount	Housing Dimensions (with lens)		4-3/4" L x 2-5/16" W x 2-5/8" D (121 mm x 75 mm x 67 mm)			
	Maximum RMS Current Rating per Strobe Setting (see Note 2 below)		15 cd	30 cd	75 cd	110 cd
			75 mA	125 mA	233 mA	316 mA
	Reference RMS Currents	18 VDC	64 mA	102 mA	199 mA	266 mA
	24 VDC	49 mA	76 mA	146 mA	195 mA	

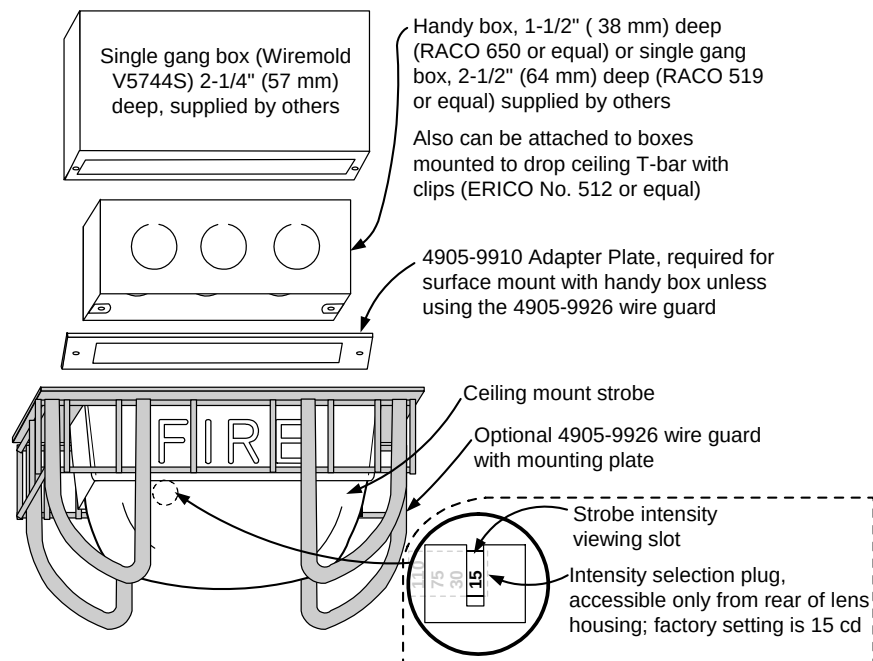
NOTES:

1. "Regulated 24 VDC" refers to the voltage range of 16 to 33 VDC per UL Standard 1971, *Signaling Devices for the Hearing Impaired*, changes effective May 1, 2004. This voltage range is the absolute operating range. Operation outside of this range may cause permanent damage to the strobe. Please note that 16 VDC is the lowest operating voltage that is allowed at the last appliance on the NAC under worst case conditions.
2. The maximum RMS current listed is the device nameplate rating. Strobe designs are constant wattage and the maximum RMS current rating occurs at the lowest allowable operating voltage. (RMS is root mean square and refers to the effective value of a varying current waveform.)

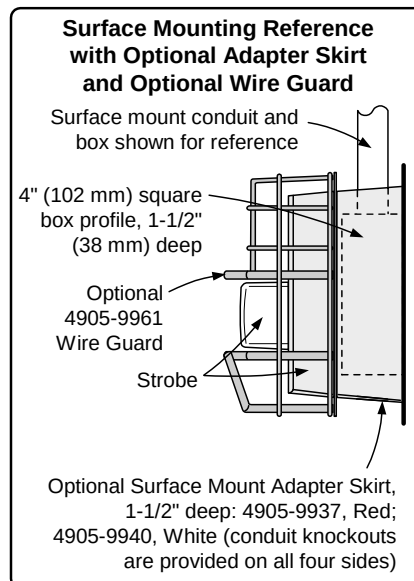
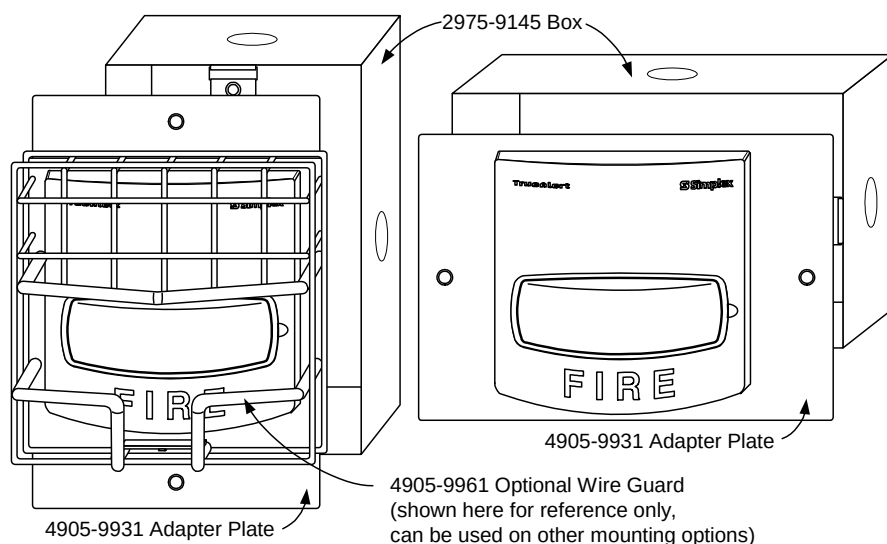
Installation Reference, Surface or Semi-Flush Wall Mounting



Ceiling Mount Strobe Installation Reference



Wall Mount Installation Reference; Adapter Plate, Guard, and Adapter Skirt



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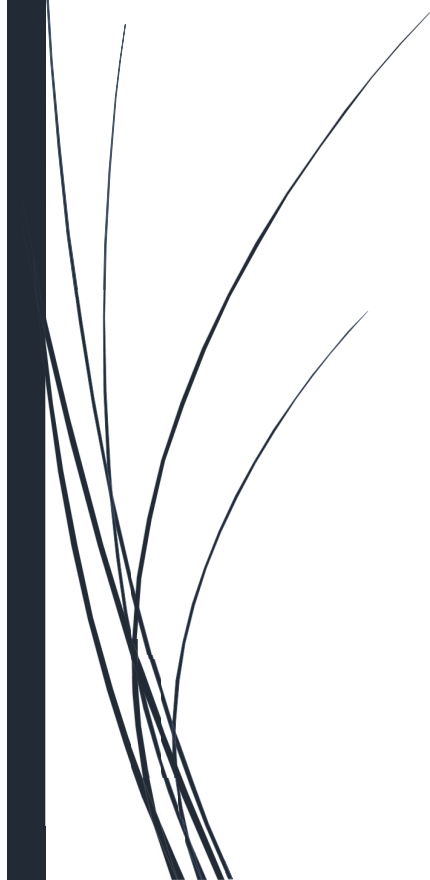


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S4906-0001-2 5/2007

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Manual station 4099-9006ns



Features

Individually addressable manual fire alarm stations with:

- Power and data supplied by IDNet or MAPNET II addressable communications using a single wire pair
- Operation that complies with ADA requirements
- Visible LED indicator that flashes during communications and is on steady when the station has been activated
- The NO GRIP Single Action Station and Retrofit Kit are available with a more easily operated pull lever for applications where anticipated users may find the standard station lever difficult to activate
- Pull lever that protrudes when alarmed
- Break-rod supplied (use is optional)
- Models are available with single or double action (breakglass or push) operation
- UL listed to Standard 38
- NEMA 1 rated. See [Addressable manual station product selection](#) for more information.

Compatible with the following Simplex control panels:

- Model Series 4007ES, 4008, 4010, 4010ES, 4100ES, 4100U, 4020, 4100, and 4120 fire alarm control panels equipped with either IDNet or MAPNET II communications
- Model Series 2120 Communicating Device Transponders (CDTs) equipped with MAPNET II communications

Compact construction:

- Electronics module enclosure minimizes dust infiltration
- Allows mounting in standard electrical boxes
- Screw terminals for wiring connections

Tamper resistant reset key lock, keyed same as Simplex fire alarm cabinets.

Multiple mounting options:

- Surface or semi-flush with standard boxes or matching Simplex boxes
- Flush mount adapter kit
- Adapters are available for retrofitting to commonly available existing boxes

Description

The Simplex addressable manual station combines the familiar Simplex manual station housing with a compact communication module that is easily installed to satisfy demanding applications. Its integral individual addressable module (IAM) constantly monitors status and communicates changes to the connected control panel through IDNet or MAPNET II communications wiring.

Operation

Activation of the 4099-9004 single action manual station requires a firm downward pull to activate the alarm switch. Completing the action breaks an internal plastic break-rod which is visible below the pull lever, use is optional. The use of a break-rod can be a deterrent to vandalism without interfering with the minimum pull requirements needed for easy activation. The pull lever latches into the alarm position and remains extended out of the housing to provide a visible indication.

Single Action NO GRIP Station 4099-9021. For applications such as California Building Code, Title 24, which requires "Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist" the model 4099-9021 station provides a more easily operated pull lever compared to standard stations. Retrofit of existing stations is available using the 4099-9805 Retrofit kit.

Double Action Stations (Breakglass) require the operator to strike the front mounted hammer to break the glass and expose the recessed pull lever. The pull lever then operates as a single action station.



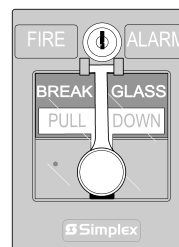
4099-9004
Single action



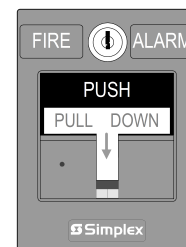
4099-9021 NO
GRIP Single action



4099-9805 NO
GRIP Retrofit kit



4099-9005 Breakglass



4099-9006 Push



With 2099-9828
Institutional Cover kit

Double Action Stations (Push Type) require that a spring loaded interference plate, marked PUSH, be pushed back to access the pull lever of the single action station.

Station reset requires the use of a key to reset the manual station lever and deactivate the alarm switch. If you use the break-rod, you must replace it.

Station testing is performed by physical activation of the pull lever. You can also perform electrical testing by unlocking the station housing to activate the alarm switch.

Specifications

Refer to 4099 MAPNET II/ IDNet Addressable Manual Pull Station with LED Installation Instructions 579-1135 for additional information.

Table 1: Specifications

Specification	Rating
Power and communications	IDNet or MAPNET II communications, 1 address for each station
Address means	DIP switch, 8 position
Wire connections	Screw terminal for in/out wiring, for 18 AWG to 14 AWG wire (0.82 mm ² to 2.08 mm ²)
UL listed temperature range	32°F to 120°F (0°C to 49°C) intended for indoor operation
Humidity range	Up to 93% RH at 100°F (38°C)
Housing color	Red with white raised lettering
Material	Housing and pull lever are Lexan polycarbonate or equal
Pull lever color	White with red raised lettering
Housing dimensions	5 in. H x 3 3/4 in. W x 1 in. D (127 mm x 95 mm x 25 mm)

Addressable manual station semi-flush mounting

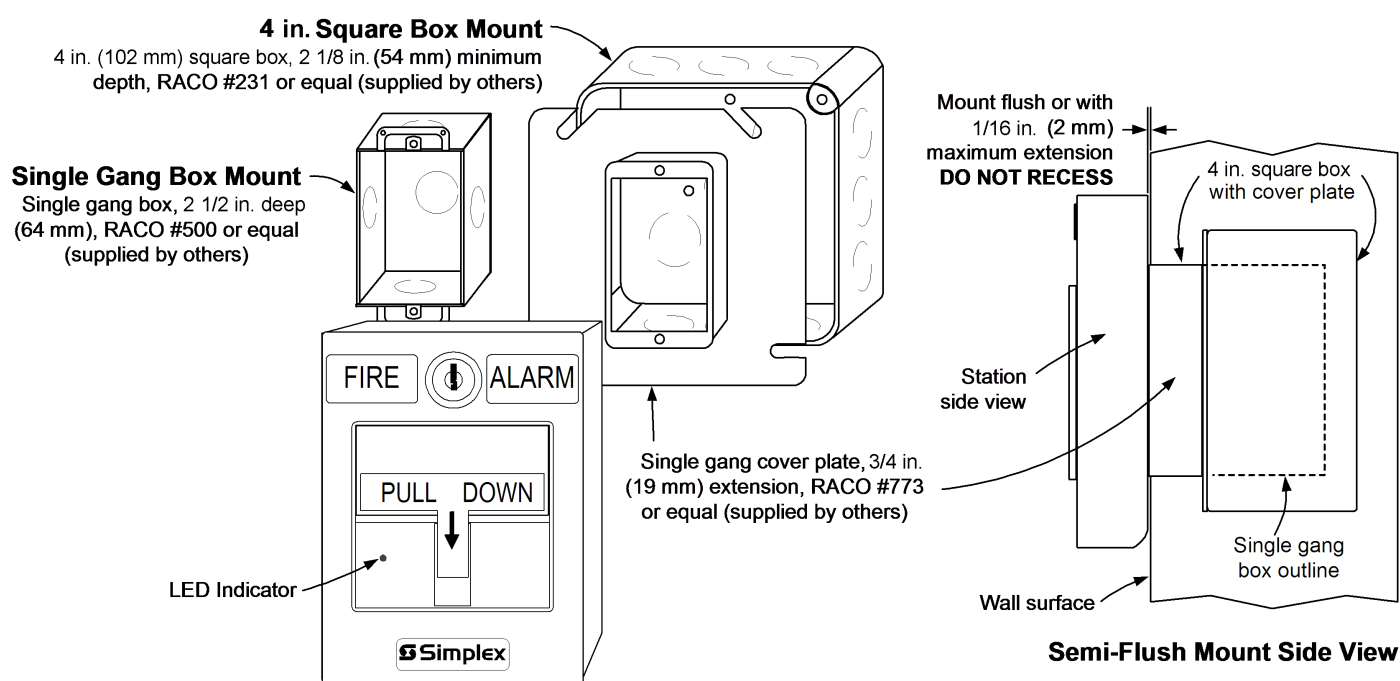


Figure 1: Addressable manual station semi-flush mounting

Addressable manual stations surface mounting

Preferred mounting. For surface mounting of these addressable manual stations, the preferred electrical boxes are shown in Figure 2.

Additional mounting reference. See [Addressable manual station, additional mounting information](#) for Wiremold box mounting compatibility.

Figure 2 shows the 2975-9178 box and the 2975-9022 cast box.

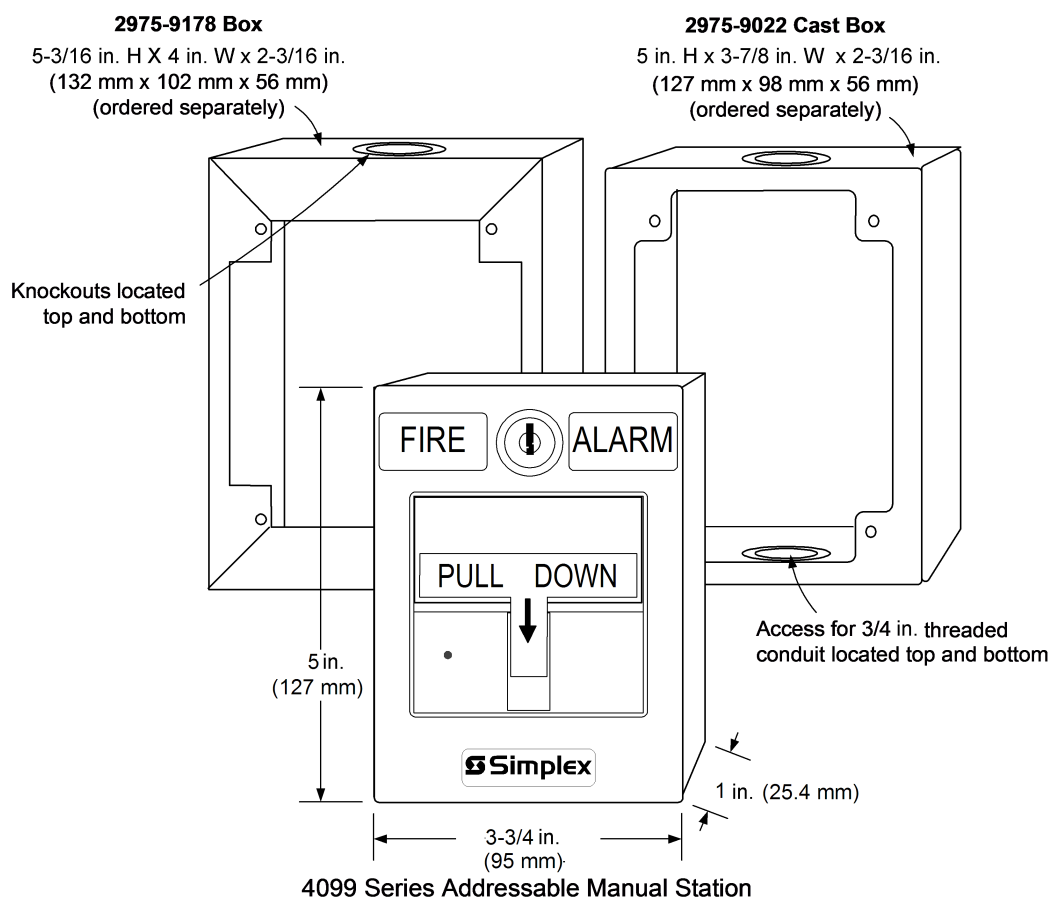


Figure 2: 4099 Series addressable manual station

Surface mount side view with internal detail

Figure 3 shows the 2975-9178 box.

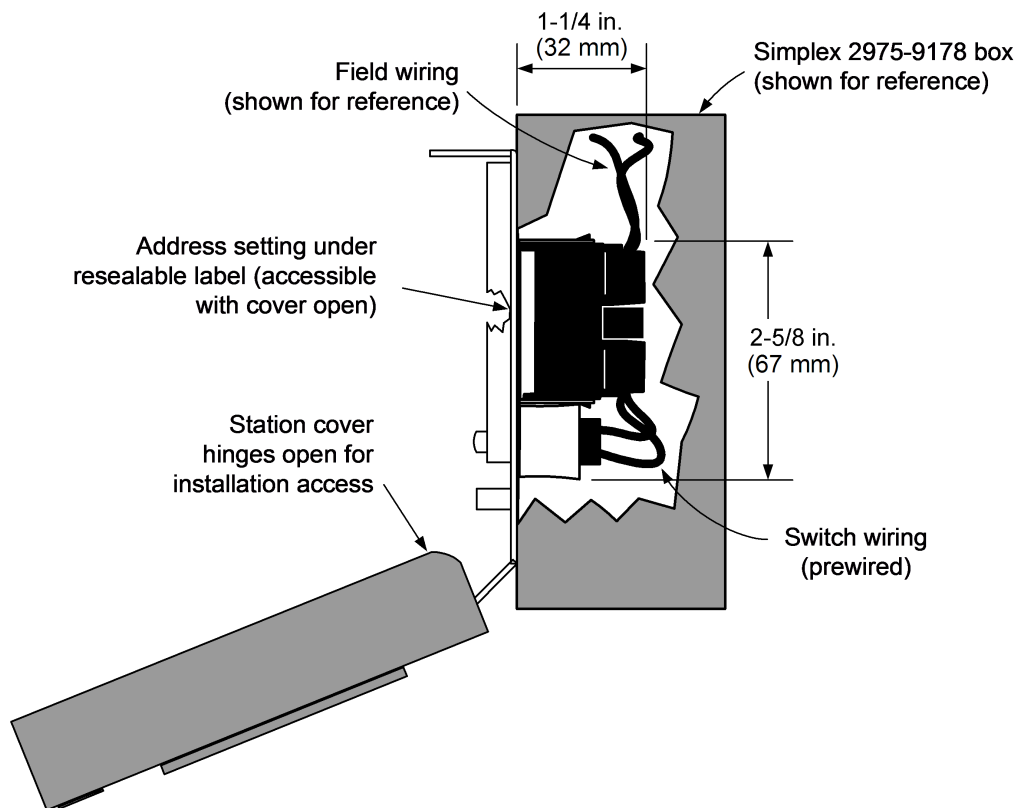


Figure 3: Surface mount side view with internal detail

Application reference

Refer to NFPA 72, the *National Fire Alarm and Signaling Code*, and all applicable local codes for complete requirements for manual stations. The following summarizes the basic requirements:

1. Stations shall be located in the normal path of exit and distributed in the protected area such that they are unobstructed and readily accessible.
2. Mounting shall be with the operable part not less than 42 in. (1.07 m) and not more than 48 in. (1.22 m) above floor level.
3. At least one station shall be provided on each floor. Additional stations shall be provided to obtain a travel distance not more than 200 ft (61 m) to the nearest station from any point in the building.
4. When manual station coverage appears limited in any way, additional stations should be installed.

Addressable manual station, additional mounting information

For retrofit and new installations, additional compatible mounting boxes and the required adapter plates are shown in Figure 4. Figure 4 shows the 2099-9814 surface trim for Wiremold boxes and the 2099-9813 semi-flush trim for 2 gang switch boxes.

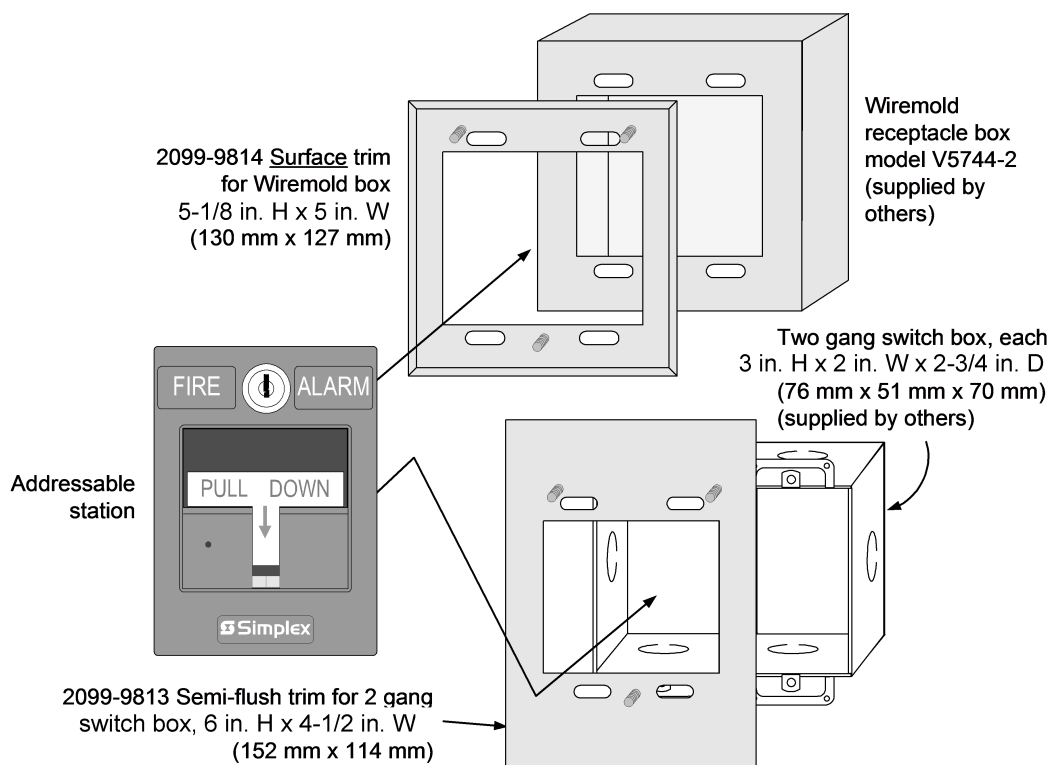


Figure 4: Addressable manual station, additional mounting information

Addressable manual station, flush mounting information

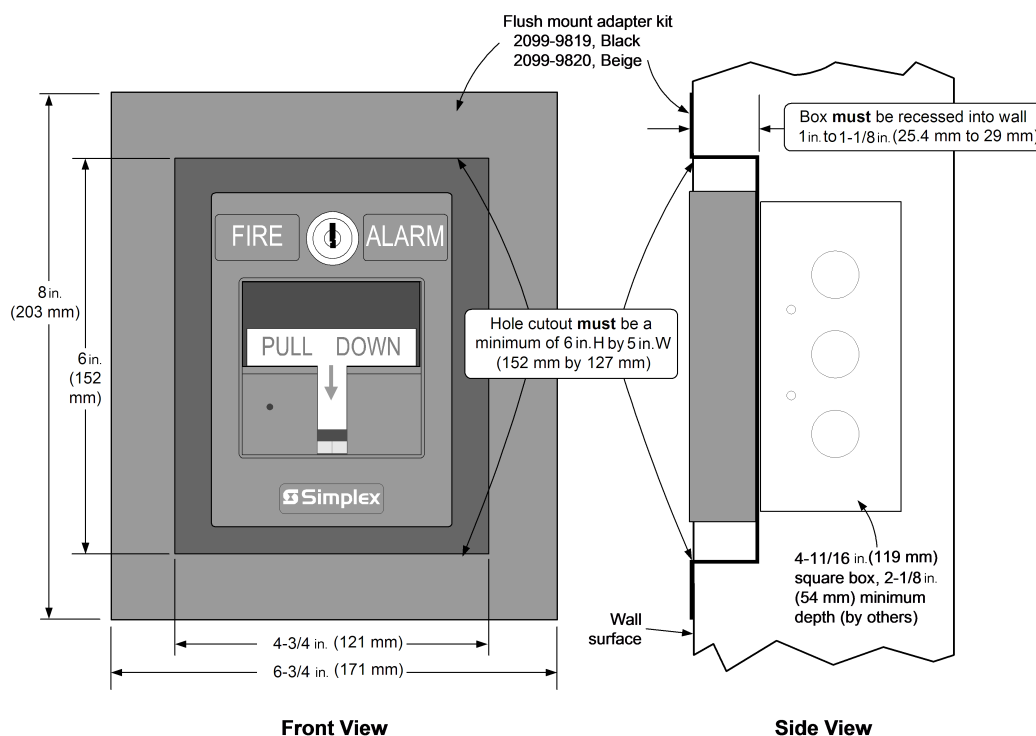


Figure 5: Addressable manual station, flush mounting information

The flush mount adapter kit is available in beige (2099-9820) or black (2099-9819).

Addressable manual station product selection

Table 2: Addressable manual station product selection red housing with white letters and white pull lever

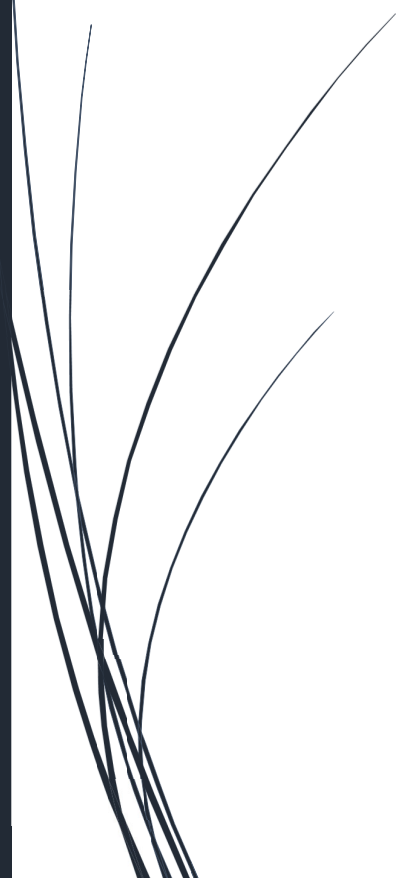
Model	Description	Housing	Pull lever	Listings
4099-9004, see note	Single Action, English	FIRE ALARM	PULL DOWN	UL, ULC, FM, CSFM
4099-9004CB, see note	Single Action, Bilingual English and French	FEU FIRE	TIREZ PULL	ULC
4099-9004CF, see note	Single Action, French	ALARME FEU	ABAISSÉZ	
4099-9004PO, see note	Single Action, Portuguese	FOGO ALARME	PUXE	UL, FM
4099-9004SP, see note	Single Action, Spanish	ALARMA FUEGO	JALE	
4099-9005, see note	Double Action, Breakglass operation, English	FIRE ALARM	PULL DOWN	UL, ULC, FM, CSFM
4099-9005PO, see note	Double Action, Breakglass operation, Portuguese	FOGO ALARME	PUXE	UL, FM
4099-9005SP, see note	Double Action, Breakglass operation, Spanish	ALARMA FUEGO	JALE	
4099-9006, see note	Double Action, Push operation, English	FIRE ALARM	PUSH PULL DOWN	UL, ULC, FM, CSFM
4099-9006PO, see note	Double Action, Push operation, Portuguese	FOGO ALARME	EMPURRE PUXE	UL, FM
4099-9006SP, see note	Double Action, Push operation, Spanish	ALARMA FUEGO	EMPUJE JALE	
4099-9021, see note	Single Action NO GRIP operation, English	FIRE ALARM	PULL DOWN	UL, ULC, FM, CSFM

Note: NEMA 1 rated when used with 2975-9178 back box.

Table 3: Accessories

Model	Description
2975-9022	Cast aluminum surface mount box, red
2975-9178	Surface mount steel box, red
2099-9813	Semi-flush trim plate for double gang switch box, red
2099-9819	Flush mount adapter kit, black
2099-9820	Flush mount adapter kit, beige
4099-9805	Retrofit Kit for field conversion of a single action station to a NO GRIP station; refer to the <i>NO GRIP Actuator (4099-9805) Installation Instructions 579-1007</i> for details
2099-9803	Replacement breakglass
2099-9804	Replacement break-rod
2099-9828	Institutional cover kit for field installation on 4099-9004; Note: Covers LED indicator
2099-9814	Surface trim plate for Wiremold box V5744-2, red
2099-9822	Replacement retaining clip for breakglass
252-019	B key for manual station reset.

Speaker 4902-9721



Features

Fire alarm speakers with models for ceiling or wall mount:

- 4 in. cone or 102 mm provides high quality tone and voice reproduction
- Multi-tapped design provides output power of 1/4 W, 1/2 W, 1 W, or 2 W with either 25 VRMS or 70.7 VRMS input
- In/out wiring terminals for 18 AWG to 12 AWG
- Mounts to 4 in. square outlet box, 1 1/2 in. deep with 1 1/2 in. deep box extension
- Capacitor input for connection to supervised notification appliance circuits
- Rugged, high impact, flame retardant thermoplastic housings
- UL listed to Standard 1480
- Compliant with NFPA 72, 520 Hz Low Frequency Signal Requirements for Sleeping Areas
- NEMA 1 rated. See [Product selection](#) for more information.

Rectangular housing models feature:

- Appearance that complements TrueAlert strobes and speaker/strobes
- Red or white housings with **FIRE** lettering for surface or semi-flush wall mount
- Optional matching adapter skirts for covering surface mounted electrical boxes
- Optional red wire guard

Round housing models feature:

- Off-white color with no lettering for flush mount on ceiling or wall
- Compatible with optional tile bridge 2905-9946

Introduction

Simplex 4902 Series speakers provide high quality sound for emergency fire alarm use as well as for background music. The moisture-repellent speaker is designed for smooth frequency response with minimal distortion.

The multi-tapped speaker transformer accommodates either 25 VRMS or 70.7 VRMS and provides an output of from 1/4 W to 2 W to provide flexibility for satisfying the requirements of the installed conditions.

Rectangular housing models are for surface or semi-flush wall mount applications. Round housing models are typically for ceiling applications but can be wall mounted if desired. The rectangular housing speakers are designed to compliment the TrueAlert family of strobes and speaker/strobes, providing conventional, non-addressable speaker operation.



Figure 1: Rectangular wall mount speakers are available as red with white FIRE lettering and white with red FIRE lettering

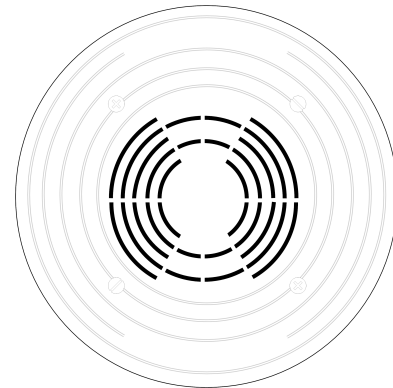


Figure 2: Round speakers are available in off-white (no lettering)

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7320-0026:242 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local product supplier for the latest status. Listings and approvals under Time Recorder Co. are the property of Tyco Fire Protection Products.

Specifications

Table 1: Dimensions, rectangular wall mount housings

Specification	Dimensions
Housing dimensions	5 1/8 in. H x 5 in. W x 1 1/2 in. D or 130 mm x 127 mm x 38 mm
Depth into box	2 3/4 in. or 70 mm

Table 2: Dimensions, round housings

Specification	Dimensions
Housing dimensions	7 1/2 in. diameter, 1/2 in. D or 191 mm x 13 mm
Depth into box	2 3/4 in. or 70 mm

Table 3: General specifications

Specification		Rating
Input voltage		25 VRMS or 70.7 VRMS
Power taps		1/4 W, 1/2 W, 1 W, and 2 W
Input terminal ratings		18 AWG to 12 AWG or 0.82 mm ² to 3.31 mm ²
Frequency response	Fire alarm	400 Hz to 4000 Hz
	General signaling	125 kHz to 12 kHz
Sound output		See Speaker sound output specifications
Temperature range		32°F to 100°F or 0°C to 38°C
Humidity range		10% to 95% RH from 32°F to 122°F or 0°C to 50°C

Product selection

Table 4: Speaker product selection

Model	Description	Dimensions
4902-9716 *	Rectangular housing, wall mount speaker	5 1/8 in. H x 5 in. W x 1 1/2 in. D or 130 mm x 127 mm x 38 mm
4902-9716CA *		
4902-9717 *		
4902-9717CA *	Round housing speaker, ceiling or wall mount	7 1/2 in. Diameter x 1/2 in. D or 191 mm x 13 mm
4902-9721 *		
4902-9721CA *		
4902-9722 *		

* NEMA 1 rated when used with 4905-9941 adaptor skirt and mounted on a suitable 4 in. or 102 mm square back box.

Note: ULC listed model are designated with a CA suffix (4902-9716CA). Refer to *4902 TrueAlert® Ceiling-Mount and Wall-Mount Speaker Installation Instructions 574-765* for non-suffix model numbers and to *4009-9808 NAC Class A Adapter Option Card Installation Instructions 579-324* for CA suffix model numbers.

Table 5: Mounting adapters

Model	Description	Dimensions
4905-9941 **	Red	Use to cover surface mounted 1 1/2 in. deep box with 1 1/2 in. deep extension external to wall, see Wall mount speakers, installation reference
4905-9942 **	White	
2905-9946	Tile bridge for 4902-9721 Speaker	See Wall mount speakers, installation reference
4905-9931 **	Adapter plate, red, for mounting to 2975-9145 box. Typically for retrofit, may be mounted vertically or horizontally.	8 5/16 in. x 5 3/4 in. x 0.060 in. Thick or 211 mm x 146 mm x 1.5 mm
2975-9145 **	Red mounting box, requires Adapter plate 4905-9931	7 7/8 in. x 5 1/8 in. x 2 3/4 in. D or 200 mm x 130 mm x 70 mm

** NEMA 1 rated.

Table 6: Covers and guard

Model	Description	Dimensions
4905-9988 ***	Red speaker cover with white FIRE lettering	Interchangeable with TrueAlert horns 5 1/8 in. H x 5 in. W x 1 1/2 in. D or 130 mm x 127 mm x 38 mm
4905-9989 ***	White speaker cover with red FIRE lettering	
4905-9999	Red wire guard with mounting plate; compatible with semi-flush or surface mounted boxes; for use with 4 in. square electrical box mounting hole patterns only, UL listed by Space Age Electronics Inc.	6 1/16 in. H x 6 1/16 in. W x 3 1/8 in. D or 154 mm x 154 mm x 79 mm

*** NEMA 1 rated.

Wall mount speakers, installation reference

Mounting requires a 4 in. or 102 mm square box, 1 1/2 in. or 38 mm deep, with a 4 in. box extension, 1 1/2 in. deep, by others.

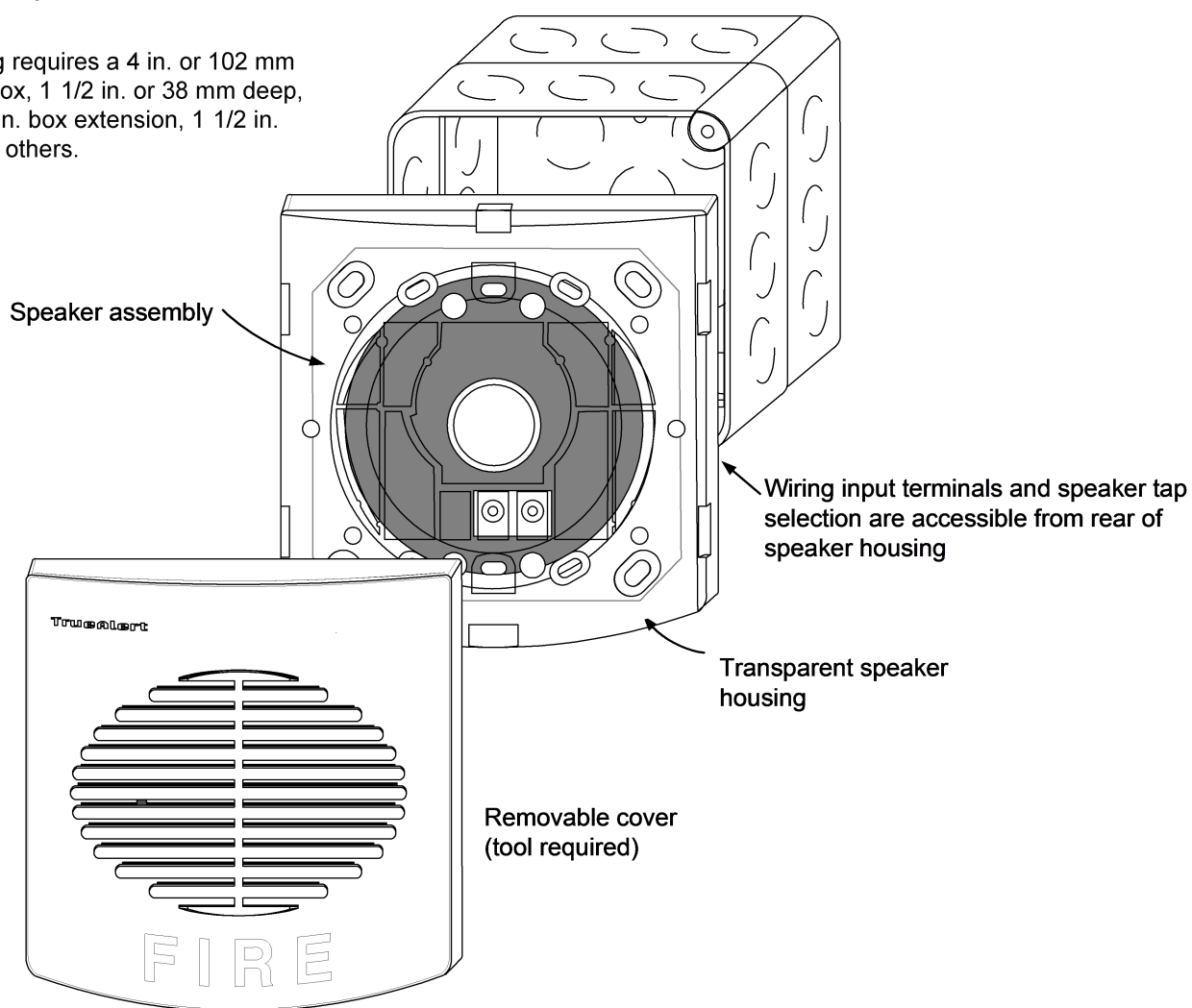


Figure 3: Wall mount speakers, installation reference

Round speaker installation reference (typically ceiling mount, wall mount is optional)

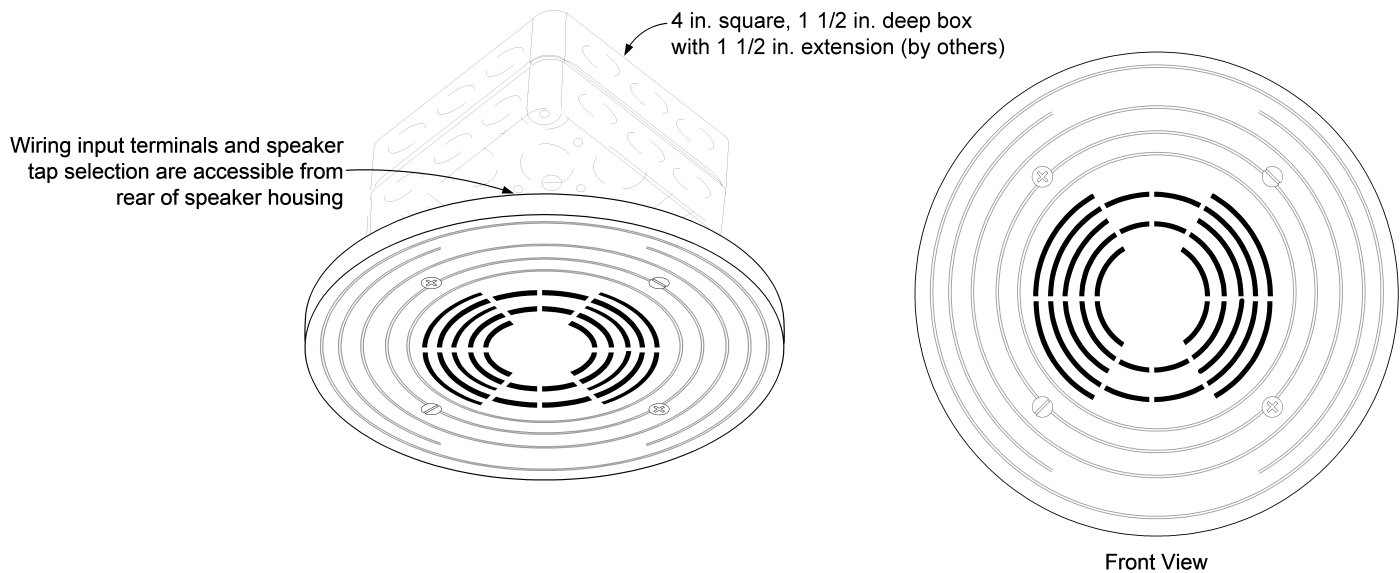


Figure 4: Round speaker installation reference

2905-9946 Tile bridge dimensions

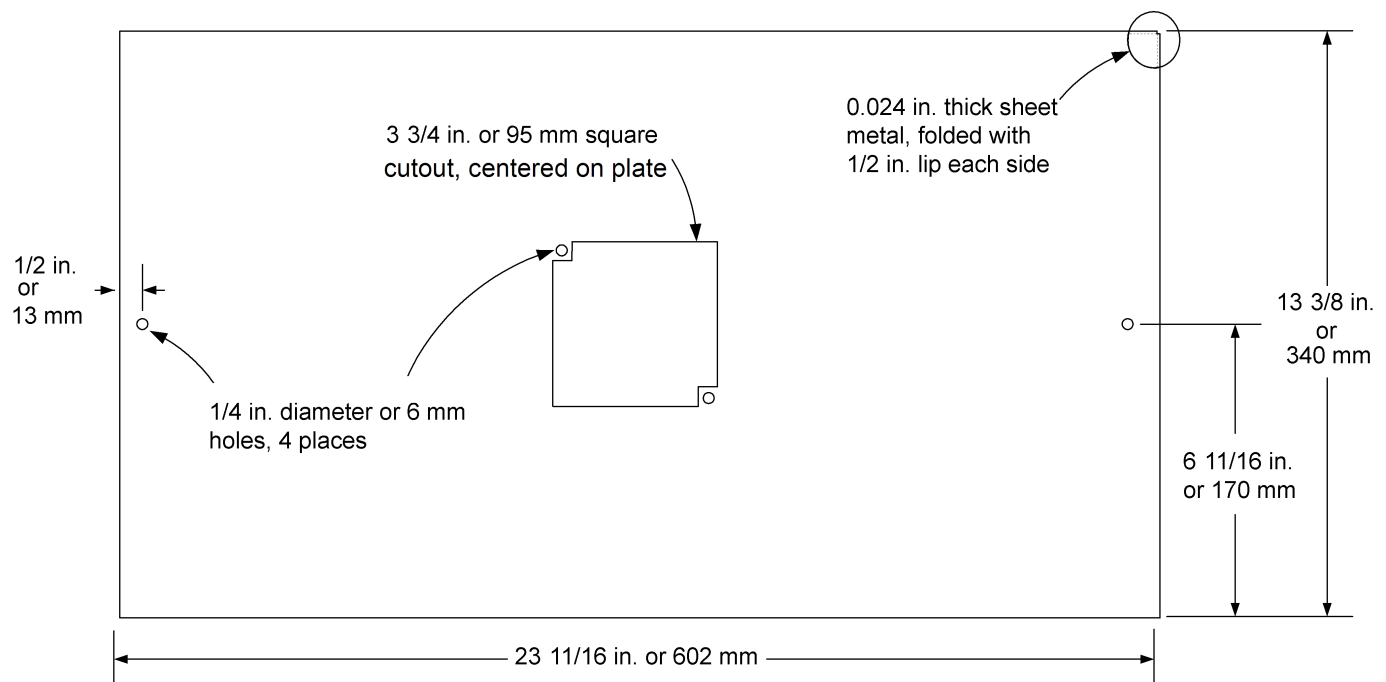


Figure 5: Tile bridge dimensions reference

Surface mounted speaker reference

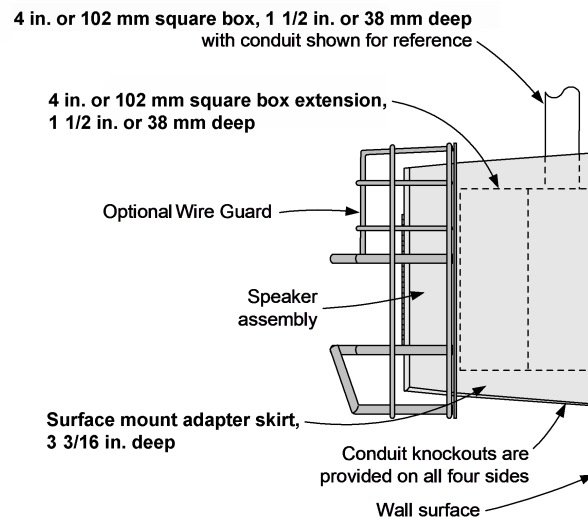


Figure 6: Surface mounted speaker reference

Note: Figure 6 shows surface mount adapter skirt available in red (4905-9941), and white (4905-9942). Optional 4905-9999 Wire Guard also shown.

Speaker sound output specifications

Table 7: Sound output ratings at 10 ft (~3 m) per UL 1480 Reverberant Chamber Testing

Model	Type	Input voltage	Selected tap			
			1/4 W	1/2 W	1 W	2 W
4902-9716	Rectangular housing	25 VRMS	80 dBA	83 dBA	85 dBA	88 dBA
4902-9717		70.7 VRMS	79 dBA	82 dBA	85 dBA	88 dBA
4902-9721	Round housing	25 VRMS or 70.7 VRMS	79 dBA	82 dBA	85 dBA	88 dBA
4902-9722						

Table 8: Sound output ratings at 3 m (~10 ft) per ULC S541 Anechoic Chamber Testing

Model	Type	Input voltage	Selected tap			
			1/4 W	1/2 W	1 W	2 W
4902-9716CACA 4902-9717CA	Rectangular housing	25 VRMS or 70.7 VRMS	77 dBA	80 dBA	83 dBA	86 dBA
4902-9721CA	Round housing	25 VRMS or 70.7 VRMS	79 dBA	82 dBA	85 dBA	89 dBA

Table 9: Speaker polar dispersion reference (per ULC S541 Anechoic Chamber Testing)

Attenuation	Angle
-3 dB	30° off-axis
-6 dB	55° off-axis

4905-9931 Adapter plate installation reference

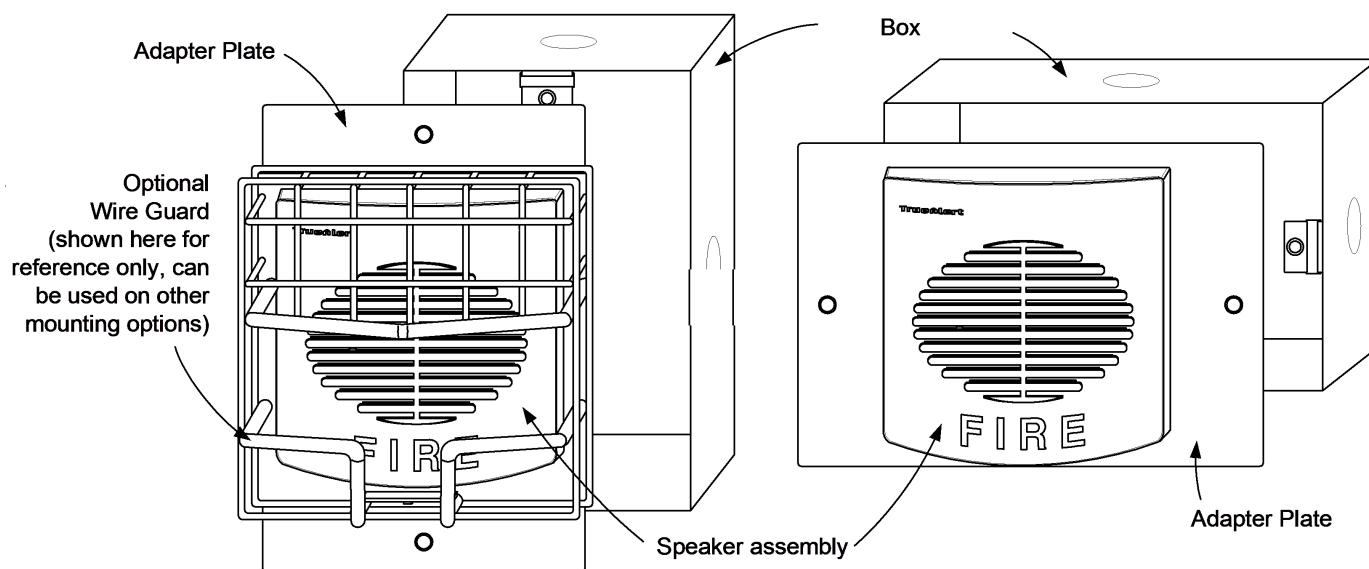
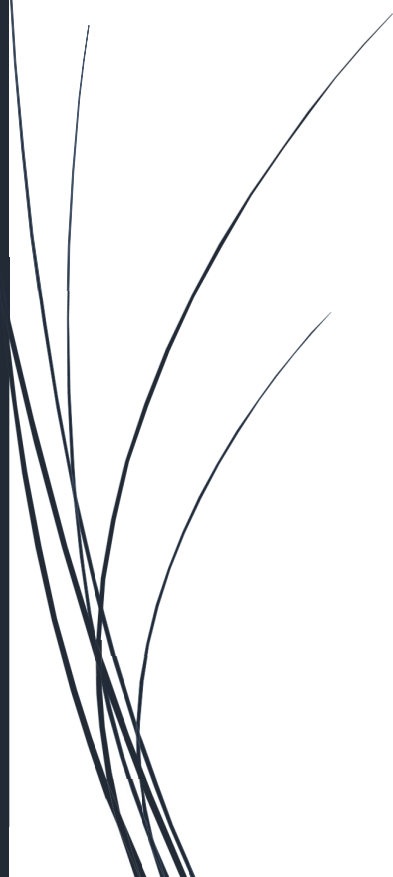


Figure 7: 4905-9931 Adapter plate installation reference

Note: Figure 7 shows:

- 4905-9931 adapter plate
- 2975-9145 back box
- 4905-9999 Optional wire guard

Speaker 4906-9154



TrueAlert Multi-Candela Notification Appliances

Visible Notification Appliances with Speaker and Multi-Candela Strobe; Non-Addressable

Features**Speaker/visible (S/V) notification appliances with multi-tapped speaker and multi-tapped high intensity xenon strobe with synchronized flash:**

- Rugged, high impact, flame retardant thermoplastic housings are available for wall or ceiling mount
- Operation is compatible with ADA requirements (see [Wall mount installation reference](#))

Wall mount S/V features:

- Housings are available in red or white with clear lens with contrasting white or red **FIRE** lettering
- Covers are available separately to convert housing color

Ceiling mount S/V features:

- Housing is white with clear lens
- Red **FIRE** lettering is printed on two sides

Audible notification appliance (speaker):

- High quality voice and tone reproduction with taps for 1/4 W, 1/2 W, 1 W, or 2 W, at 25 VRMS or 70.7 VRMS
- Capacitor input for connection to supervised notification appliance circuits
- Speakers are wired separately from strobe wiring
- UL listed to Standard 1480 and ULC-S541*
- Compliant with NFPA 72, 520 Hz Low Frequency Signal Requirements for Sleeping Areas

Visible notification appliance (strobe):

- 24 VDC xenon strobe; intensity is selectable as 15, 30, 75, or 110 candela with visible selection jumper secured behind strobe housing
- Strobes are activated from NACs selected to provide Simplex strobe synchronization signals or from separate strobe Synchronization Modules that are available for Class B or Class A operation
- Regulated circuit design ensures consistent flash output and provides controlled inrush current
- UL listed to Standard 1971 and ULC-S526*

Options for wall mounted S/Vs:

- Red or white adapters to cover surface mounted electrical boxes
- Red adapter for mounting to 2975-9145 boxes
- Red wire guard

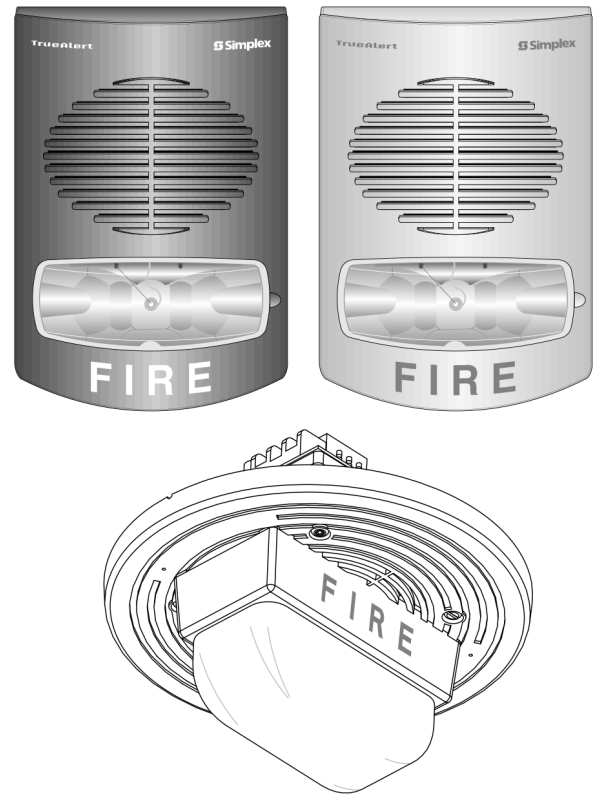


Figure 1: Wall and ceiling mount S/Vs

Description**Multi-Candela TrueAlert S/Vs with speaker and synchronized strobe**

Provide convenient installation to standard electrical boxes with extensions. The enclosure designs are both impact and vandal resistant and provide a convenient strobe intensity selection. You can select each model for strobe intensity output. This minimizes on-site model inventory and easily accommodates changes encountered during construction.

Wall mount

S/V housings are a one-piece assembly, including lens, that mounts to a 4 in. square electrical box with extension, see [Wall mount installation reference](#). You can quickly remove the cover with a tool and covers are available separately for color conversion.

Ceiling mount

S/Vs also install using 4 in. electrical boxes with an extension. See [Ceiling mount S/V installation reference](#) and 2905-9946 tile bridge dimensions.

Strobe intensity selection

During installation, a selection plug at the back of the housing determines the desired strobe intensity. An attached flag with black letters on a highly visible yellow background allows the selected intensity to be seen at the side of the strobe lens.

Synchronized strobes

Multiple strobes

When multiple strobes and their reflections can be seen from one location, synchronized flashes reduce the probability of photo-sensitive reactions as well as the annoyance and possible distraction of random flashing. The multi-candela strobes of these S/Vs are activated by NACs that provide the Simplex synchronization format. For additional information, refer to data sheet [S4905-0003](#).

Strobe application selection

Proper selection of visible notification is dependent on occupancy, location, local codes, and proper applications of: the *National Fire Alarm and Signaling Code* (NFPA 72), ANSI A117.1; the appropriate model building code: BOCA, ICBO, or SBCCI; and the application guidelines of the Americans with Disabilities Act (ADA).

Product selection

Table 1: Wall mount multi-candela S/Vs

Model	Housing Color	FIRE Lettering	Listings	Description	Housing dimensions with lens
4906-9151	Red	White	UL and ULC	Multi-tapped Speaker with Multi-Candela Synchronized Strobe; strobe intensity selectable as: 15 cd, 30 cd, 75 cd, or 110 cd	7 1/4 in. H x 5 in. W x 2 5/8 in. D or 184 mm x 127 mm x 67 mm
4906-9153	White	Red			

Table 2: Ceiling mount multi-candela S/V

Model	Housing color	Lettering	Listings	Description	Dimensions
4906-9154	White	Red (FIRE)	UL	Multi-tapped Speaker with Multi-Candela Synchronized Strobe; strobe intensity selectable as: 15 cd, 30 cd, 75 cd, or 110 cd	Housing = 7 1/2 in. or 191 mm diameter, 1/2 in. or 13 mm deep Strobe lens protrusion = 2 5/8 in. or 67 mm above speaker housing Depth into box = 2 3/4 in. or 70 mm
4906-9157	White	Red (FIRE)	ULC		
4906-9158	White	Red (ALERT)	UL		
4906-9159	White	Blank	UL		
4906-9160	Red	White (FIRE)	UL		

Table 3: Wall mount S/V adapters

Model	Description	Dimensions
4905-9946	Surface mount red adapter skirt	7 3/4 in. H x 5 3/8 in. W x 3 3/16 in. D or 197 mm x 137 mm x 81 mm depth with S/V = 5 7/8 in. or 149 mm
4905-9947	Surface mount white adapter skirt	
4905-9903	Adapter Plate, red, required to mount S/V on 2975-9145	8 5/16 in. H x 5 3/4 in. W x 0.060 in. Thick or 211 mm x 146 mm x 1.5 mm
2975-9145	Mounting box, red, for surface or flush mount, requires adapter plate 4905-9903 (this box may be available for retrofit applications)	7 7/8 in. H x 5 1/8 in. W x 2 3/4 in. D or 200 mm x 130 mm x 70 mm

Table 4: Wall mount S/V replacement covers

Model	Descriptions	Dimensions
4905-9996	Red S/V cover with white FIRE lettering	7 1/4 in. H x 5 in. W x 1 3/8 in. D or 184 mm x 127 mm x 35 mm
4905-9997	White S/V cover with red FIRE lettering	

Table 5: Synchronized flash control modules

Model	Description	Dimensions
4905-9914*	Synchronized Flash Module, Class B operation	1 3/8 in. W x 2 7/16 in. L x 13/16 in. H or 35 mm x 62 mm x 20 mm
4905-9922*	Synchronized Flash Module, Class A operation	

Table 6: Wall mount S/V wire guard

Model	Description	Dimensions
4905-9998	Wire guard with mounting plate, red, compatible with surface and semi-flush boxes (UL listed by Space Age Electronics Inc.)	8 3/8 in. H x 6 5/16 in. W x 3 1/4 in. D or 213 mm x 154 mm x 79 mm

Table 7: Ceiling mount tile bridge

Model	Description	Dimensions
2905-9946	Tile Bridge	See Ceiling mount S/V installation reference and 2905-9946 tile bridge dimensions

* Refer to data sheet [S4905-0003](#) for additional flash control module information

S/V specifications

Table 8: Common specifications

Specification	Rating
Environmental	32°F to 122°F or 0°C to 50°C; 10% to 93%, non-condensing at 100°F or 38°C
Connections	Terminal blocks for 18 AWG to 12 AWG or 0.82 mm ² to 3.31 mm ² ; two wires for each terminal for in/out wiring

Table 9: Speaker specifications

Specification	Rating
Input voltage	25 VRMS or 70.7 VRMS, see Note 1
Power taps	1/4 W, 1/2 W, 1 W, and 2 W
Frequency response	Fire Alarm
	General signaling
	400 Hz to 4000 Hz
	125 kHz to 12 kHz
Speaker output Ratings @ 10 ft or 3 m (see Note 1)	Wattage tap
	UL Listed Models, Reverberant Chamber Test, per UL 1480
	Wall Mount Models 4906-9151 and 4906-9153, Anechoic Chamber Test, per ULC-S541
	Ceiling Mount Model 4906-9157, per ULC-S541
	25 VRMS Input
	70.7 VRMS Input
	1/4 W
	1/2 W
	1 W
	2 W
	76 dBA
	79 dBA
	82 dBA
	85 dBA
	77 dBA
	80 dBA
	83 dBA
	86 dBA
	81.6 dBA
	84.3 dBA
	87.1 dBA
	89.7 dBA
	80.9 dBA
	84.1 dBA
	87.3 dBA
	90.2 dBA
Polar Dispersion Reference (per ULC-S541 Anechoic Chamber Testing)	Attenuation
	-3 dB
	Angle
	+/- 30° off-axis
	Attenuation
	-6 dB
	Angle
	+/- 55° off-axis

Table 10: Strobe specifications

Specification	Rating
Rated voltage range	Regulated 24 VDC; 16 VDC to 33 VDC, see Note 2
Flash rate and synchronized NAC loading	1 Hz; with up to 35 synchronized strobes maximum for each NAC
Wall mount	Housing dimensions (with lens)
	7 1/4 in. H x 5 in. W x 2 5/8 in. D or 184 mm x 127 mm x 67 mm
	Maximum RMS current rating per strobe setting
	15 cd
Ceiling mount	Maximum RMS Current rating per strobe setting
	30 cd
	75 cd
	110 cd
	60 mA
	94 mA
	186 mA
	252 mA
	Reference RMS currents at other
	18 VDC
	24 VDC
	53 mA
	84 mA
	165 mA
	224 mA
	40 mA
	63 mA
	124 mA
	168 mA
	Speaker housing = 7 1/2 in. or 191 mm diameter, 1/2 in. deep or 13 mm; lens protrusion above speaker housing = 2 5/8 in. or 67 mm; depth into box = 2 3/4 in. or 70 mm
	15 cd
	30 cd
	75 cd
	110 cd
	75 mA
	125 mA
	233 mA
	316 mA
	Reference RMS currents at other
	18 VDC
	24 VDC
	67 mA
	111 mA
	207 mA
	281 mA
	50 mA
	83 mA
	155 mA
	211 mA

Note:

- Speakers are for connection to conventional fire alarm audio circuits. Anechoic speaker output ratings are typically more representative of actual installed sound output.
- The maximum RMS strobe current listed is the device nameplate rating. Strobe designs are constant wattage and the maximum RMS current rating occurs at the lowest allowable operating voltage. RMS is root mean square and refers to the effective value of a varying current waveform.

Speaker directional characteristics reference

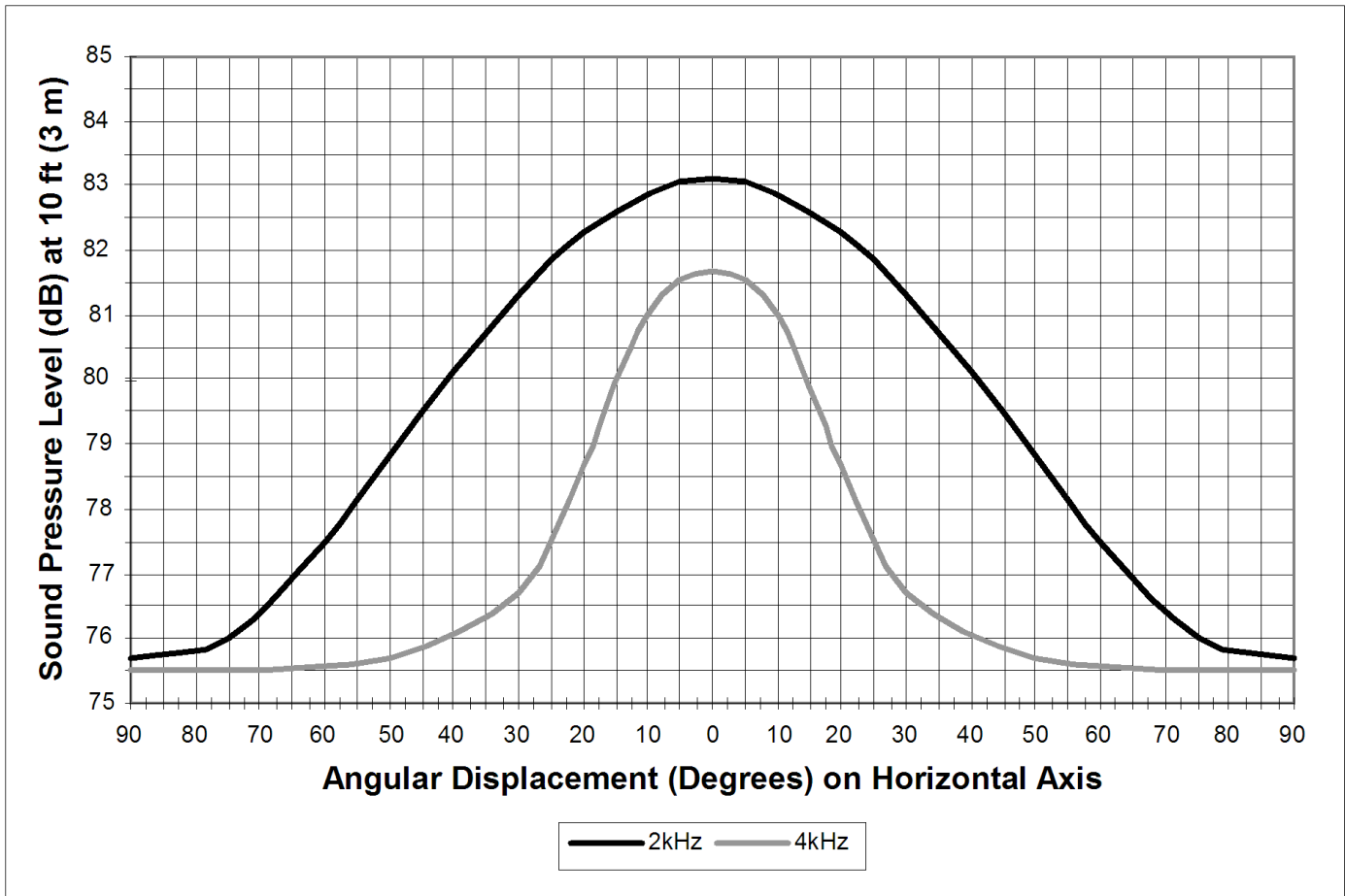


Figure 2: Speaker directional characteristics reference

Ceiling mount S/V installation reference and 2905-9946 tile bridge dimensions

Figure 3 shows the mounting of a 4905-9903 Adapter plate to the 2975-9145 box.

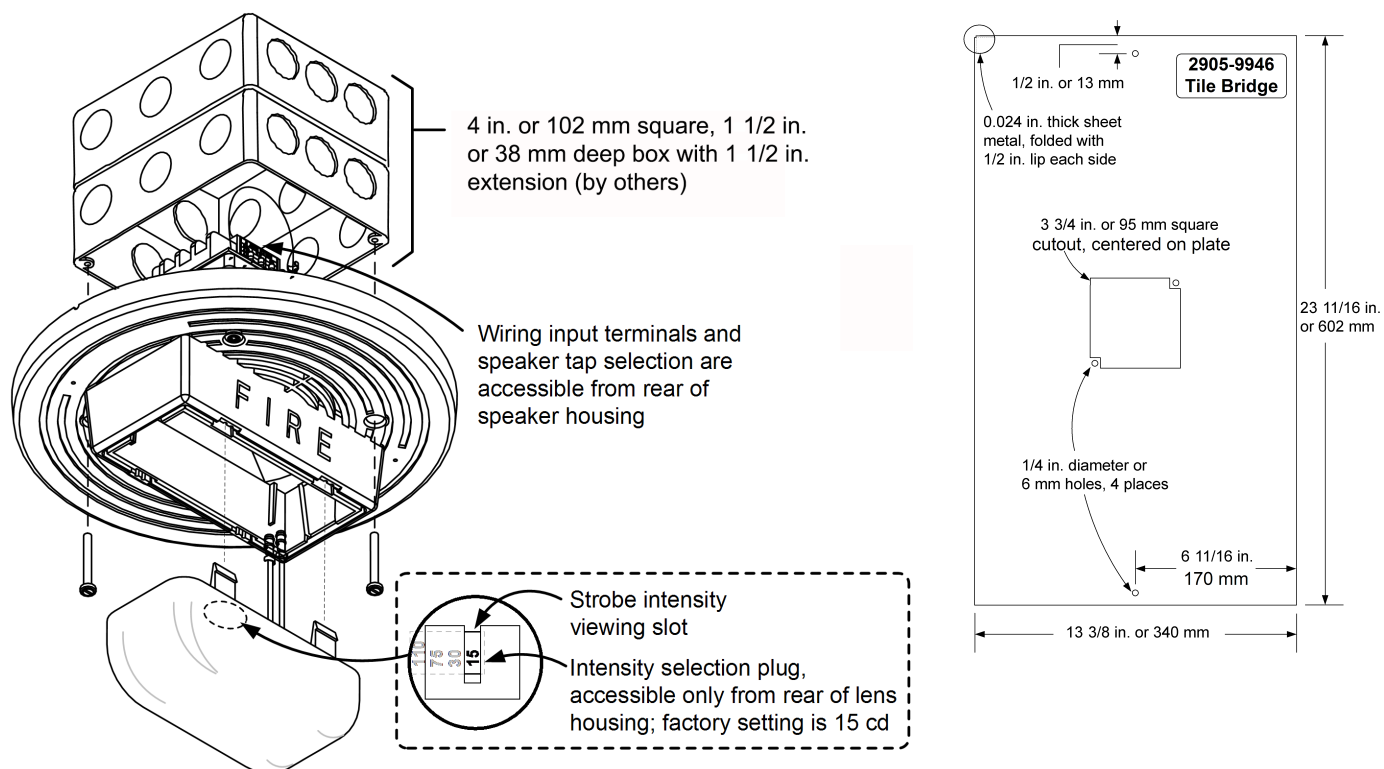


Figure 3: Ceiling mount S/V installation reference and tile bridge dimensions

The surface mount adapter skirts are available in red (4905-9946) or white (4905-9947)

Wall mount installation reference

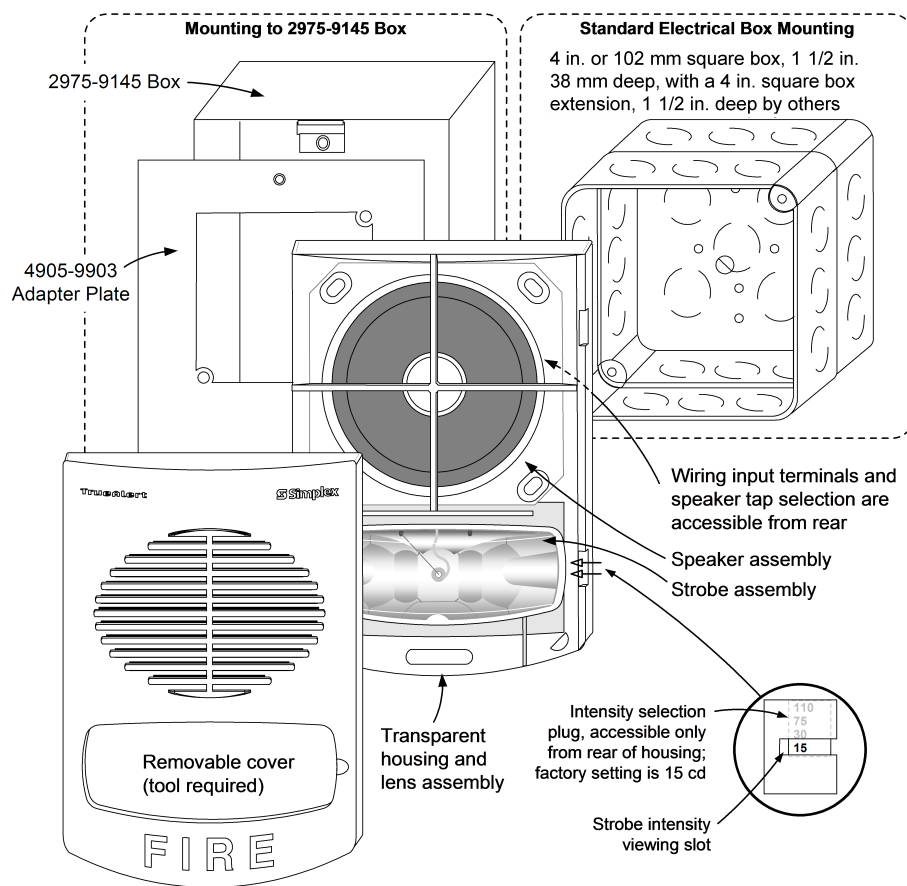
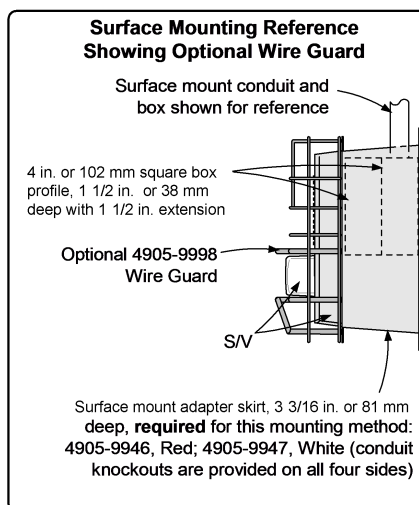
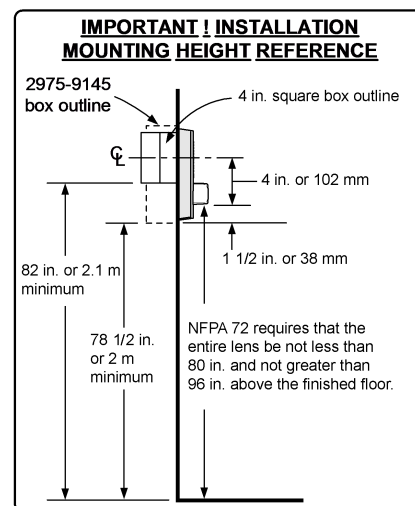
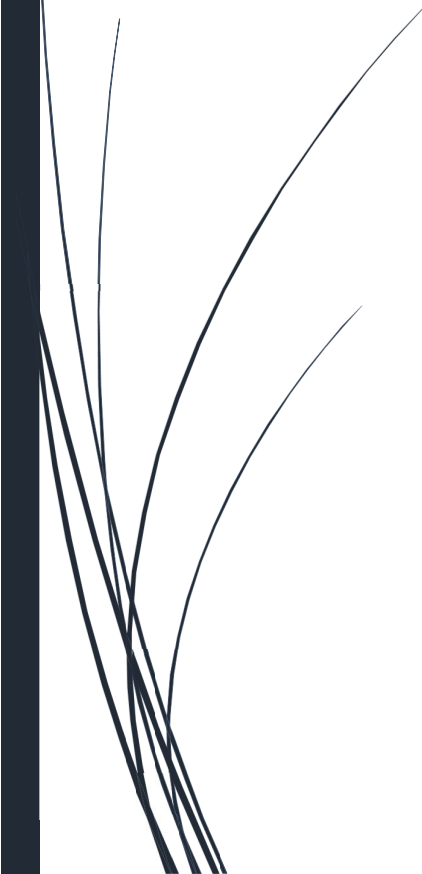


Figure 4: Wall mount installation reference



Monitor module 4090-9001





UL, ULC, CSFM Listed; FM Approved;
MEA (NYC) Acceptance*

Multi-Application Peripherals

IDNet and MAPNET II Communicating Devices,
Individual Addressable Modules (IAMs)

Features

IDNet or MAPNET II addressable communications supply both data and power over a single wire pair to provide:**

- Supervised Class B monitoring of normally open, dry contacts
- Total wiring distance from IAM to supervision resistor(s) of up to 500 ft (152 m)
- Monitored connection is compatible with Simplex® 2081-9044 Overvoltage Protectors for outdoor wiring or electrically noisy applications
- For use in indoor locations up to 158° F (70° C) such as attic spaces or similar applications

For use with following Simplex control panels:

- Model Series 4007ES, 4008, 4010, 4010ES, and 4100ES fire alarm control panels for IDNet communications
- Model Series 4100/4100U/4100ES, 4120, 4020, and 2120 Communicating Device Transponders (CDTs) equipped with MAPNET II communications

Model 4090-9001:

- Enclosed design minimizes dust infiltration
- Mounts in standard single gang electrical box
- Screw terminals for wiring connections
- Visible LED flashes to indicate communications
- Optional covers are available to allow LED to be viewed after installation (requires mounting bracket, ordered separately)

Model 4090-9051:

- Encapsulated design for extended exposure to high humidity (LED is not present on this model)
- Color coded 18 AWG leads for wiring

IDNet communications provides current limited monitoring:

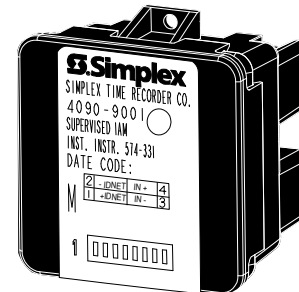
- Provides monitoring of tamper switch (supervisory) and waterflow switch (alarm) on same circuit using one point
- Available with IDNet communications only

Multiple operation modes are available and are selectable at the control panel:

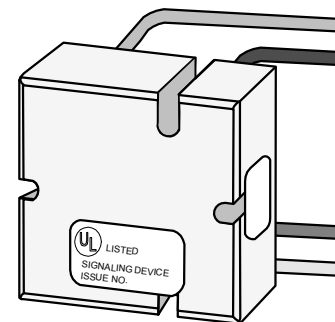
- Contact closure status can be tracked
- Momentary contact closure conditions can be selected at the panel to be latched or tracked (not available with the 2120 CDT)

UL listed to Standard 864

* These products have been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7300-0026:223 for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



4090-9001 Supervised IAM
(shown approximately 3/4 size)



4090-9051 Supervised IAM
(shown approximately 3/4 size)

Description

Individual addressable modules (IAMs) receive both power and communications from a two-wire MAPNET II or IDNet circuit. They provide location specific addressability to a single initiating device (such as single station smoke detector alarm contacts or heat detector contacts) or multiple devices at the same location by monitoring normally open dry contacts and the wiring to an end-of-line resistor.

Model 4090-9001 is packaged in a thermoplastic housing and provides screw terminal connections and a status indicating LED.

Model 4090-9051 is an encapsulated package with wire leads. It does not provide a status indicating LED.

Operation

Contact Closure. Closure of the monitored contact(s) initiates an alarm or other response as programmed at the fire alarm control panel. An open in the monitored circuit wiring will cause a trouble to be reported.

Panel Selections. Selections can be made at the control panel to maintain the alarm condition if the initiating device contacts are momentary, such as from a rate-of-rise heat detector, or to track the device contact status (not available with the 2120 CDT).

Current Limited Operation Applications

For use with IDNet communications only, these IAMs can provide quad-state sensing of normal, open circuit, short circuit, and current limited conditions. (Program type is “T-sense.”) With the proper end-of-line and current limiting resistors, dual functions such as tamper switch and waterflow switch monitoring can be determined and communicated by a single addressable point.

IAM Product Selection

Model	Description
4090-9001	Supervised IAM, mounted in thermoplastic housing with screw terminals; see applicable options below
4090-9051	Supervised IAM, encapsulated with wire leads

Optional Trim Plates and Mounting Bracket for Model 4090-9001

Model	Description
4090-9806	For semi-flush mounted box
4090-9807	For surface mounted box
4090-9810	Mounting bracket, mounts IAM to electrical box and provides screw holes for trim plate, required for optional trim plates

End-of-Line Resistor Harnesses (ordered separately as required)

Model	Reference No.	Description
4081-9004	733-886	6.8 k Ω , 1/2 W; Standard end-of-line resistor harness for N.O. contact supervision
4081-9003	733-896	4.7 k Ω , 1/2 W
4081-9005	733-984	1.8 k Ω , 1/2 W

Use for current limited monitoring applications

Specifications

Electrical

Power and Communications	MAPNET II or IDNet, auto selected, 1 address per IAM	
Input Requirements	Normally open, dry contacts	
Wire Connections	4090-9001	Screw terminals for in/out wiring, 18 to 14 AWG wire (0.82 mm ² to 2.08 mm ²)
	4090-9051	Color coded wire leads, 18 AWG (0.82 mm ²), 8" long (203 mm)
Reference Documents	Installation Instructions	574-331 for 4090-9001; 579-572 for 4090-9051
	Field Wiring Diagrams	842-073 for IDNet operation; 841-804 for MAPNET II operation

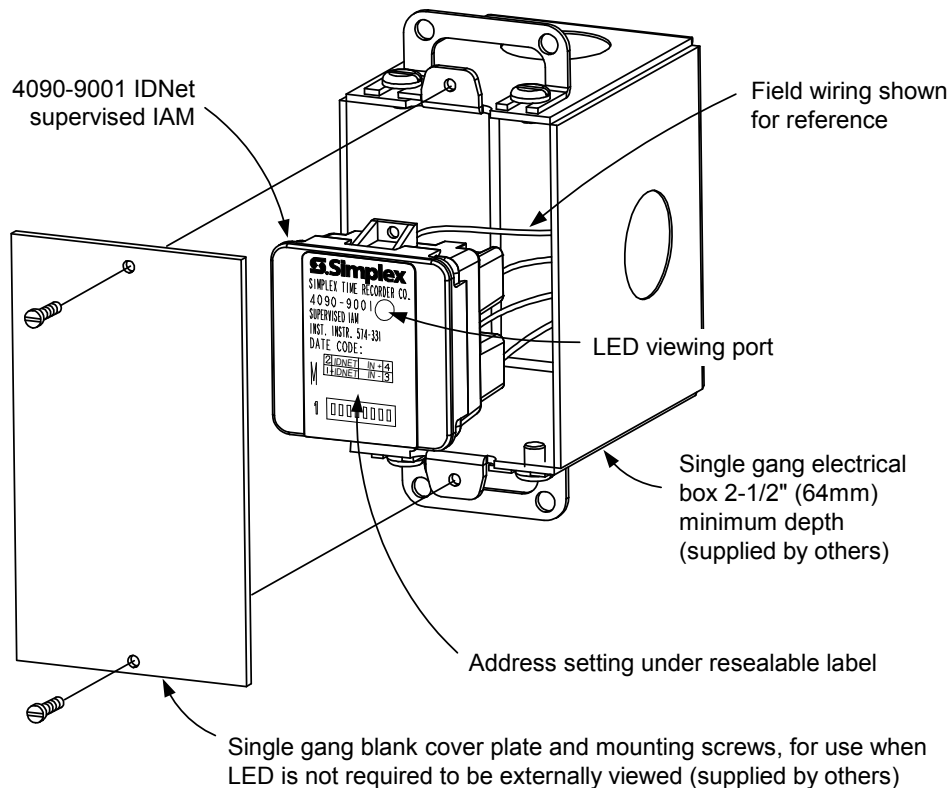
Wiring Distances

Distance from IAM to Contacts	500 ft (152 m) maximum without protectors
	400 ft (122 m) maximum with 2081-9044 Overvoltage Protectors
Wiring Distance Reference per channel, MAPNET II or IDNet Communications	2500 ft (762 m) maximum from fire alarm control panel
	10,000 ft (3048 m) maximum total wiring distance (including T-Taps)

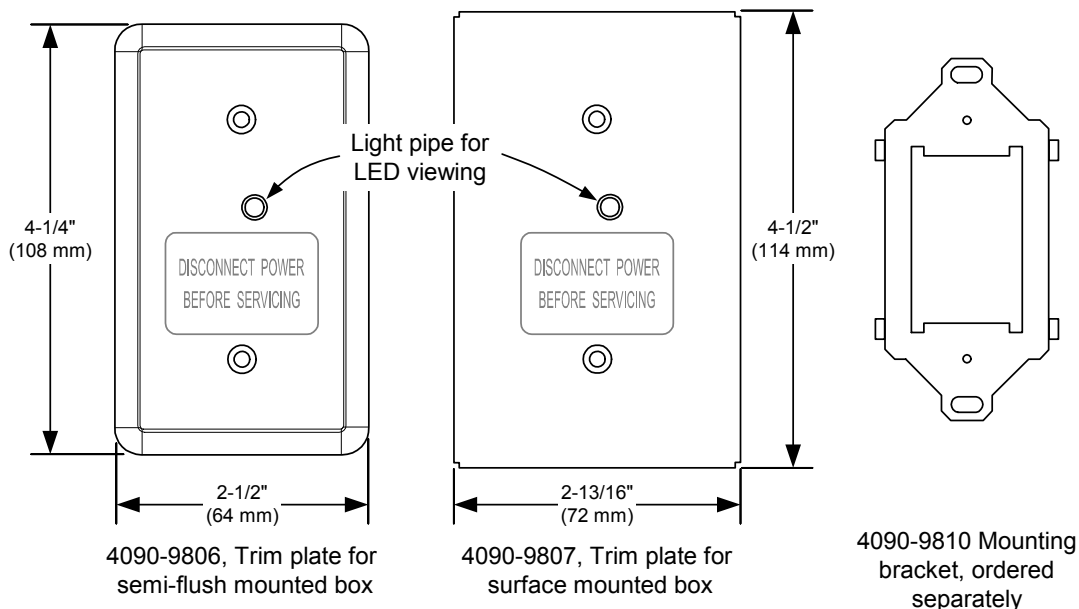
Mechanical

Dimensions	4090-9001	1-9/16" W x 1-3/4" H x 1-1/4" D (40 mm x 44 mm x 32 mm)
	4090-9051	1-9/16" W x 1-9/16" H x 9/16" D (40 mm x 40 mm x 14 mm)
Housing Material, 4090-9001	Black thermoplastic	
Encapsulation Material, 4090-9051	Epoxy, beige	
Temperature Range	32° to 158° F (0° to 70° C); intended for indoor operation	
Humidity Range	Up to 93% RH at 100° F (38° C)	

Mounting Information



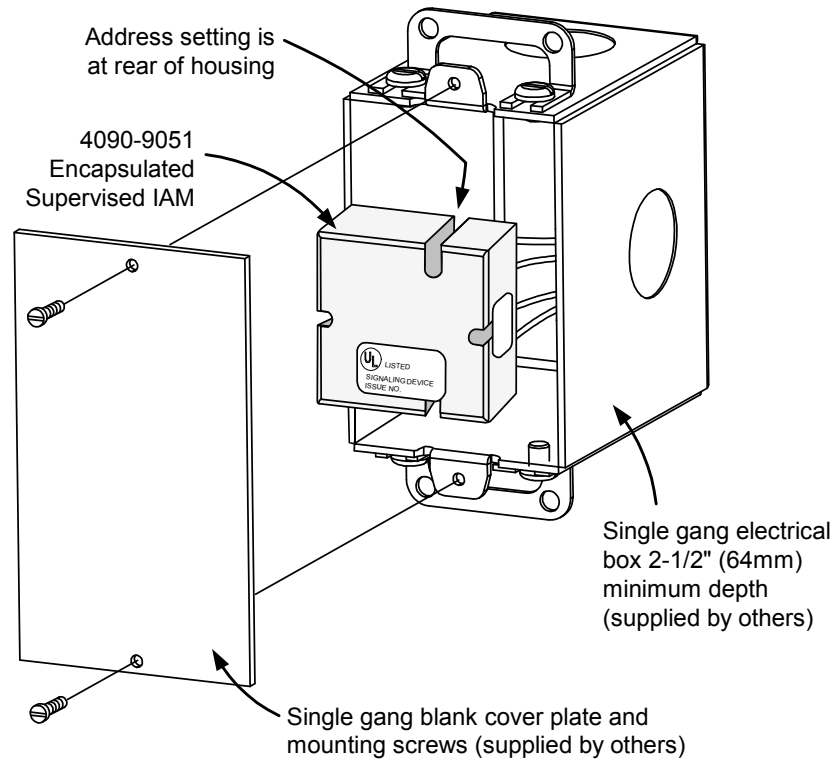
Mounting Reference, Single Gang Blank Cover Plate



NOTE: These mounting plates require mounting bracket 4090-9810.

Optional Trim Plates and Mounting Bracket for Visible LED

4090-9051 Mounting Information



**Addressable Control
Module 4090-9002**



UL, ULC, CSFM Listed; FM Approved;
MEA (NYC) Acceptance*

Multi-Application Peripherals

IDNet Communicating Devices
Model 4090-9002 Relay IAM

Features

Individual Addressable Relay Module (Relay IAM):

- IDNet addressable control for use with Simplex® fire alarm control panel models 4007ES, 4008, 4010, 4010ES, 4100ES, and 4100U
- A single addressable point provides control and status tracking of a Form “C” contact
- Low power latching relay design allows IDNet communications to supply both data and module power
- Relay is set to OFF on initial power up and upon loss of IDNet communications

Compact, sealed construction:

- Enclosed design minimizes dust infiltration
- Mounts in standard 4” (102 mm) square electrical box, optional adapter bracket is available to mount in a 4 11/16” (119 mm) square electrical box
- Screw terminals for wiring connections
- Visible LED flashes to indicate communications
- Optional covers are available to allow LED to be viewed after installation

UL listed to Standard 864

Description

IDNet Relay IAMs allow fire alarm control panels to control a remotely located Form “C” contact using IDNet addressable communications for both data and module power. Typical applications would be for switching local power for control functions such as elevator capture, or control of HVAC components, pressurization fans, dampers, etc. Relay status is also communicated requiring only one device address.

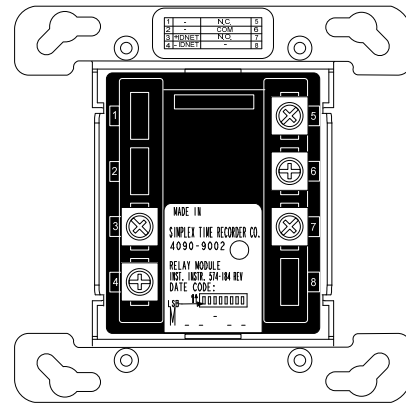
Product Selection

Model	Description
4090-9002	Relay IAM

Optional Adapter and Trim Plates

Model	Description	
4090-9813	Adapter plate to fit 4 11⁄16" (119 mm) square electrical box	
4090-9801	For semi-flush mounted box	Trim Plate, galvanized steel, with LED viewing window; includes mounting screws
4090-9802	For surface mounted box	

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7300-0026:223 for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

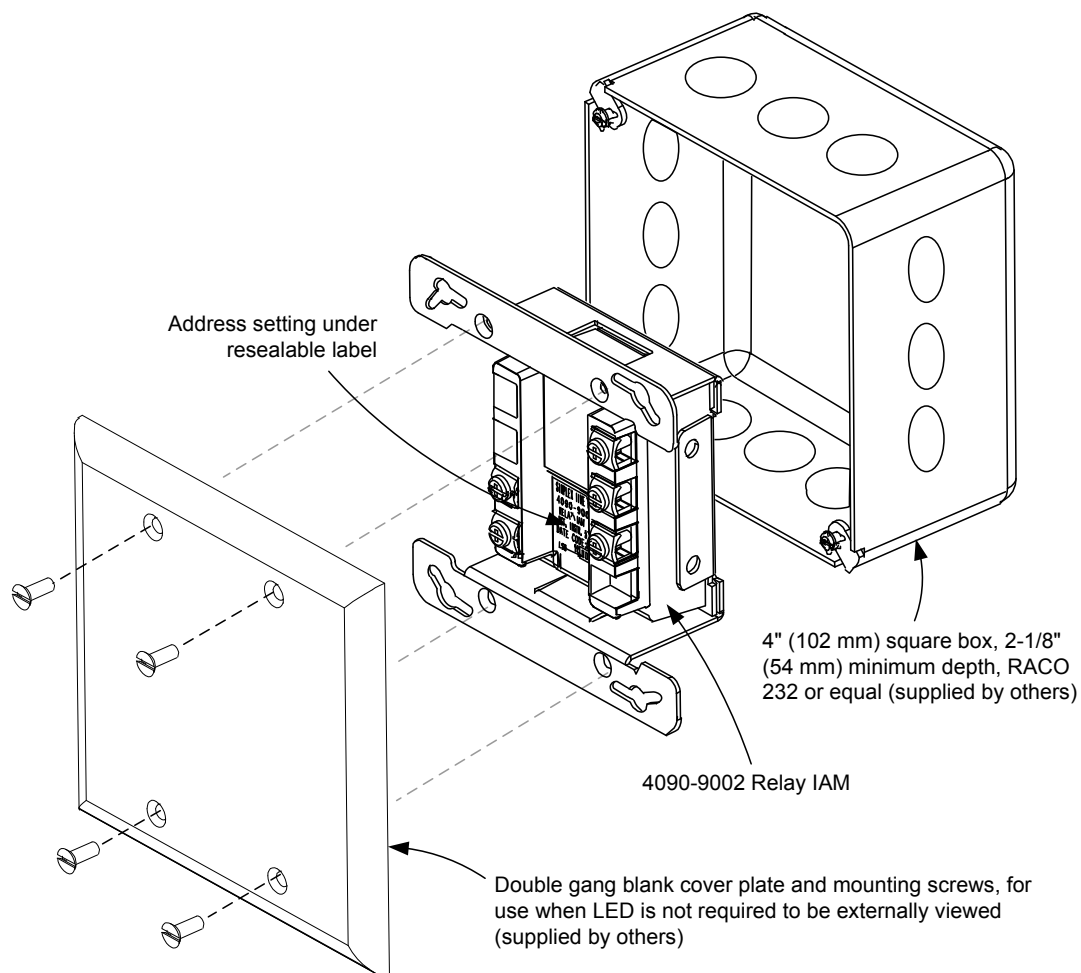


4090-9002 IDNet Relay IAM Package
(shown approximately 1/2 size)

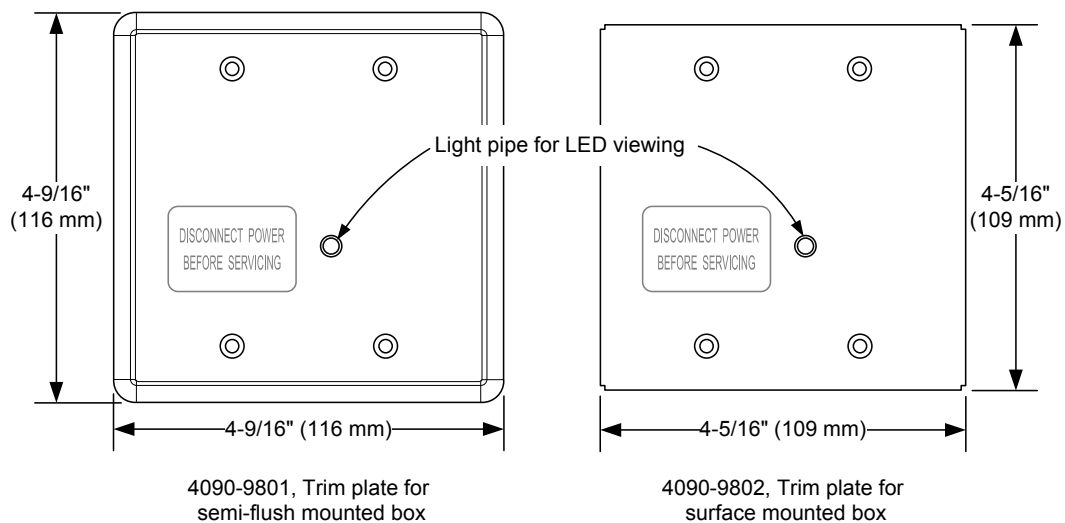
Specifications

Communications	IDNet communications, 1 address per device	
Relay IAM Power	Supplied by IDNet communications	
Contact Ratings* (not rated for incandescent switching)		
Type	Form C, SPDT	
Power-Limited	2 A @ 24 VDC, resistive	from listed fire alarm supply
	1 A @ 24 VDC, inductive	
Nonpower-Limited	0.5 A @ 120 VAC, resistive	
* Provide circuit fusing and transient suppression as required per application. DC inductive loads can typically be diode suppressed; 120 VAC loads may require RC networks or varistors, depending on device type. Refer to the installation instructions for additional information.		
Wire Connections	Screw terminals for in/out wiring, 18 to 14 AWG wire (0.82 to 2.08 mm ²)	
IDNet Communications Wiring Reference	Up to 2500 ft (762 m) from control panel	
	Up to 10,000 ft (3048 m) total wiring distance (including T-Taps)	
	Compatible with Simplex 2081-9044 Overvoltage Protectors	
Dimensions	4 1⁄8" H x 4 1⁄8" W x 1 3⁄8" D (105 mm x 105 mm x 35 mm)	
Housing Material	Black thermoplastic	
Mounting Plate	Sheet metal, galvanized	
Temperature Range	32° to 120° F (0° to 49° C), intended for indoor operation	
Humidity Range	Up to 93% RH at 100° F (38° C)	
Installation Instructions	574-184	

Relay IAM Mounting Information



Mounting Reference, Double Gang Blank Cover Plate



Optional Trim Plates for Visible LED

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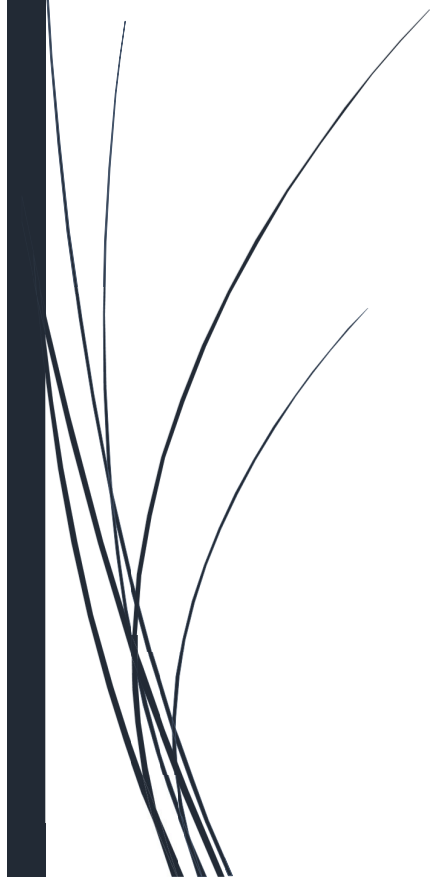


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S4090-0002-10 11/2014

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**Addressable Zam
Module 4090-9101**





UL, ULC, CSFM Listed; FM Approved;
MEA (NYC) Acceptance*

Multi-Application Peripherals

IDNet or MAPNET II Communicating Devices
4090-9101 and 4090-9106, Zone Adapter Modules

Features

IDNet or MAPNET II communications compatible Monitor ZAMs (Zone Adapter Modules) provide an addressable interface to a conventional initiating device circuit (IDC)

Available for Class B or Class A IDCs:

- 4090-9101, Class B monitoring for 2-wire or 4-wire initiating devices, with power reset connections for 4-wire devices
- 4090-9106, Class A monitoring for 2-wire initiating devices
- Zone device power is supplied separately (typically from fire alarm control panel)
- Refer to device compatibility list on page 2

For use with the following Simplex® fire alarm control panels:

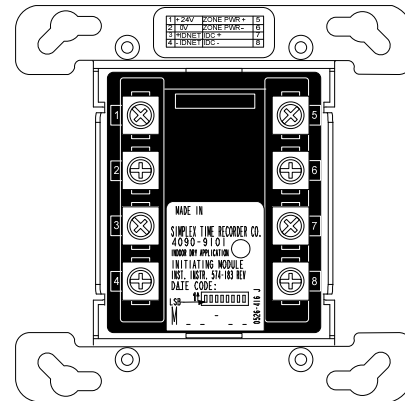
- Model Series 4007ES, 4008, 4010, 4010ES, 4100ES, and 4100U fire alarm control panels using IDNet communications
- Model Series 4100/4100U, 4120, 4020, and 2120 Communicating Device Transponders (CDTs) equipped with MAPNET II communications

Compact, sealed construction:

- Enclosed design minimizes dust infiltration
- Mounts in standard 4" (102 mm) square electrical box
- Screw terminals for wiring connections
- Visible LED flashes to indicate communications
- Optional covers are available to allow LED to be viewed after installation
- UL listed to Standard 864

Description

IDNet/MAPNET II Monitor ZAMs allow a single addressable point to monitor a conventional initiating device circuit (IDC) populated with 2-wire or 4-wire initiating devices. Refer to page two for compatible devices.



4090 Series ZAM Package
(shown approximately 1/2 size)

Specifications

Communications	IDNet or MAPNET II, 1 address per device
ZAM Input Voltage	18.9 to 32 VDC (nominal 24 VDC)
ZAM Current @ 24 VDC	Supervisory = 16 mA maximum Alarm = 72 mA maximum (actual current is determined by total device requirements)
4090-9101 ZAM, Zone Supervision Resistor	3.3 kΩ, 1 W
Wire Connections	Screw terminals for in/out wiring, 18 to 14 AWG wire (0.82 to 2.08 mm ²)
IDNet or MAPNET II Wiring	Up to 2500 ft (762 m) from fire alarm control panel
	Up to 10,000 ft (3048 m) total wiring distance (including T-Taps)
	Compatible with Simplex 2081-9044 Overvoltage Protectors
Dimensions	4 1/8" H x 4 1/8" W x 1 3/8" D (105 mm x 105 mm x 35 mm)
Housing Material	Black thermoplastic
Mounting Plate Material	Sheet metal, galvanized
Temperature Range	32° to 120° F (0° to 49° C) intended for indoor operation
Humidity Range	Up to 93% RH at 100° F (38° C)

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7300-0026:223 for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

Product Selection

ZAM Modules

Model	Description
4090-9101	Zone Adapter Module for Class B monitoring of 2-wire or 4-wire initiating devices; with power reset connections for 4-wire devices
4090-9106	Zone Adapter Module for Class A monitoring of 2-wire initiating devices

Optional Adapter and Trim Plates

Model	Description
4090-9813	Adapter plate to fit 4 $1\frac{1}{16}$ " (119 mm) square electrical box
4090-9801	For semi-flush mounted box
4090-9802	For surface mounted box
Trim plate with LED viewing window, includes mounting screws; galvanized steel	

End-of-Line Resistor Harness

Model	Reference No.	Description
4081-9002	733-893	3.3 kΩ, 1 End-of-Line Resistor Harness for 4090-9101, Class B zone monitoring

Monitor ZAM Two-Wire Initiating Device Compatibility Reference Chart

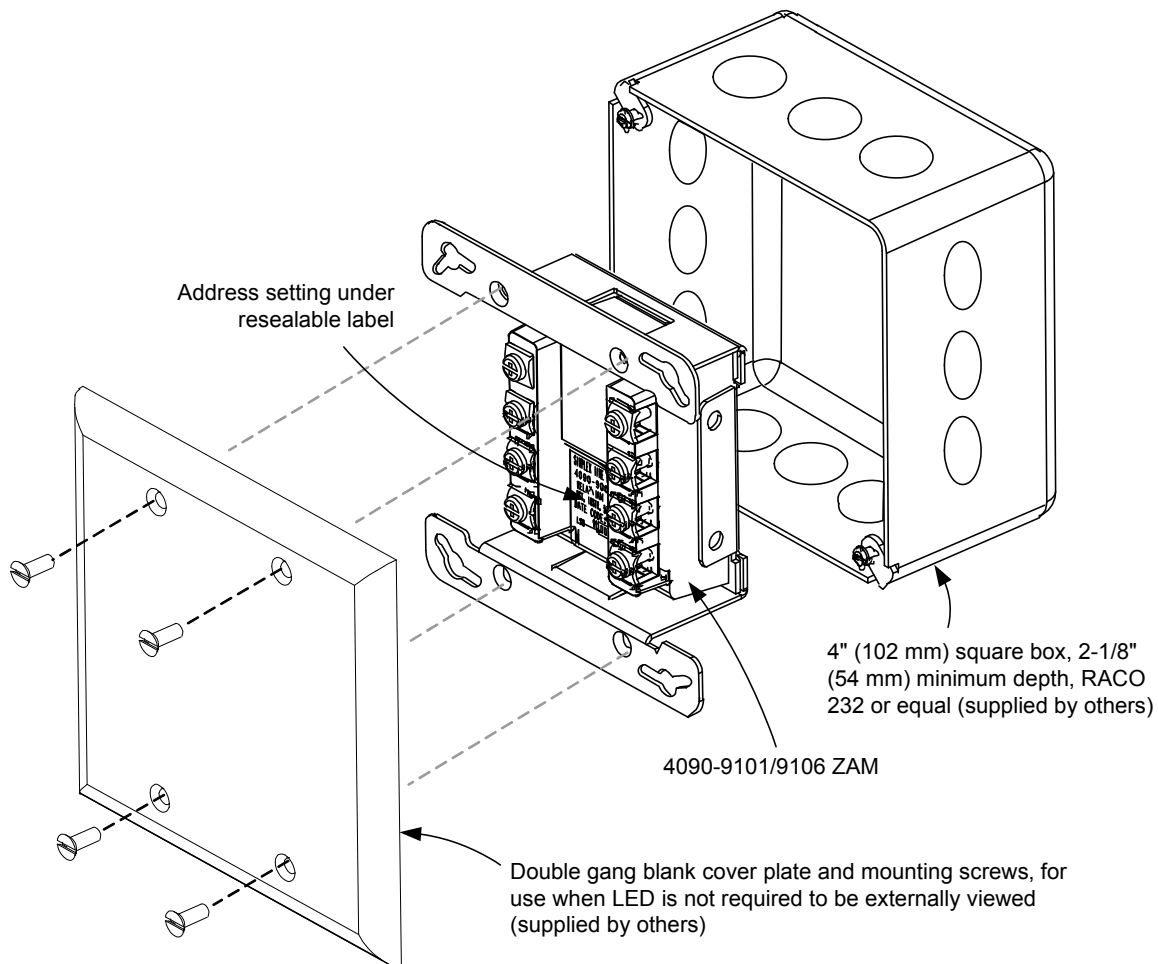
Description	Model	Compatible Bases	Maximum Quantity
Direct connect photoelectric smoke detector	2098-9209	No base required	20
Electronic heat detectors	4098-9401		
	4098-9402		
	4098-9403		
	4098-9404		
	4098-9612	4098-9788	20
	4098-9613	4098-9684	
	4098-9614	4098-9683	1
	4098-9615		
Photoelectric smoke detectors	4098-9601	4098-9788	20
	4098-9602	4098-9683	1
	4098-9605		
Ionization smoke detector	4098-9603	4098-9788	20
		4098-9683	1
Duct detector housing with 4098-9601 detector	4098-9685	N.A.	20

Reference for Existing Equipment

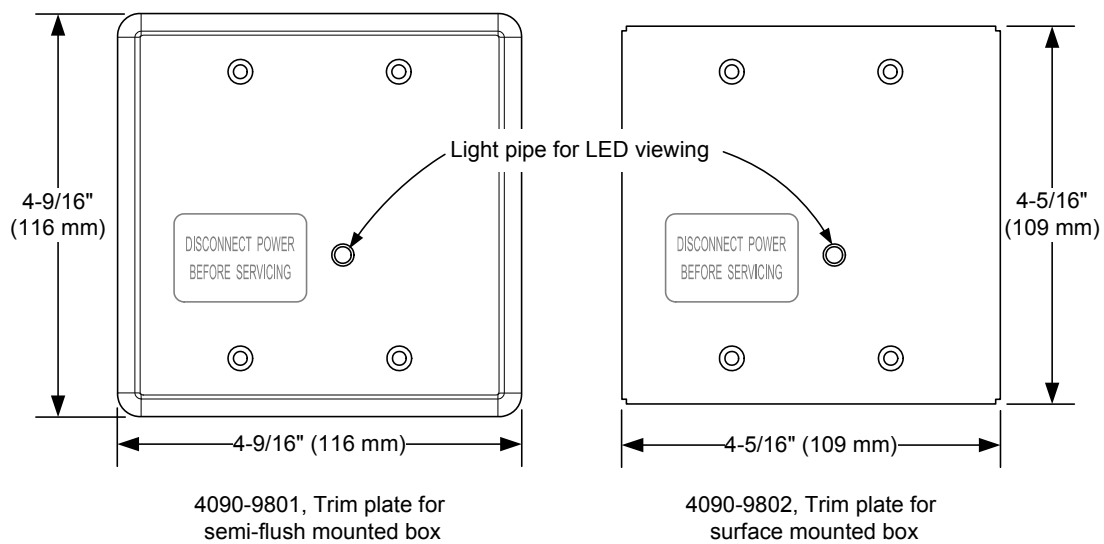
Description	Model	Compatible Bases	Maximum Quantity
Smoke detectors	2098-9201	2098-9211	20
	2098-9202		
	2098-9203	2098-9637	1
	2098-9576		
Electronic heat detectors	4098-9407	2098-9211	20
	4098-9408		
	4098-9409		
	4098-9410		

NOTES:

- Four-wire detector operation is compatible with conventional listed contact closure initiating devices.
- Four-wire detectors require detector voltage to be connected to resettable power terminals.
- Refer to installation instructions 574-183 and field wiring diagram 842-073 for additional information.
- Contact your local Simplex product supplier for additional compatible devices.



Mounting Reference, Double Gang Blank Cover Plate



Optional Trim Plates for Visible LED

UI /FM certificates

CERTIFICATE OF COMPLIANCE

Certificate Number 20180312-S771
Report Reference S771-20010416
Issue Date 2018-MARCH-12

Issued to: SIMPLEX TIME RECORDER CO
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EQUIPMENT;
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SMOKE DETECTOR MONITORS AND ACCESSORIES
See Addendum Pages

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Report Reference S771-20010416
Issue Date 2018-MARCH-12

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

UL Fire Alarm, Security, General, and Emergency Signaling Equipment:

Models 4100-9001, -9111, -9112, -9113, -9114, -9115, -9116, -9121, -9122, -9131, 9132, -9133, -9211, -9212, -9213, -9214, -9222, -9230, -9231, -9232, -9233, -9234, -9235, -9236, -9237, -9238, -9311, -9314, -9511, -9512, -9513, -9531, -9532, -9533, -9534, -9600, -9601 and -9602 control units.

Models A100-9311, -9314, -9511, -9512, -9513

Models 4100-9141 through -9146, -9151 through -9156, -9241 through -9246, -9342, -9352, -9355, -9542 Network Display Units

Models 4100-9157, -9158, -9159, -9160, -9161, -9162, -9163, -9164, -9165, -9252, -9253, -9168, -9169, -9170, -9248, -9249, -9357, -9358, -9359, -9250, -9251, and -9545 Network Display Units

Model 4100-9643 Utility Cabinet

Model 4100-9607 through -9615 remote annunciators

Model 4100-3115 XA loop interface card.

Model 4003-9803 Remote Microphone Module

Model 4009 TPS NAC Expander

4090-9117 Addressable Power Isolator

4090-9116 Addressable IDNET Isolator

4090-9116TSP Addressable IDNET Isolator

4100-1244 Remote Microphone

4100-9401, -9403, -9421, -9423, -9441, -9443 Remote User Interface

4100-1271 Remote Telephone

UL Fire Alarm, Security, General and Emergency Signaling Subassembly:

Model 4100-7150, -7158, -7152, -7154, -7156 and -9833 Master Controller Replacements

Models 4100-6104, -6306, -6307, -6308, -6309, -6310 ES Network Media Cards



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4100-9620 and -9621 Audio Master Controllers

4190-6104 Remote Service Gateway

4190-6107 Cellular TrueInsight Remote Service Gateway

4100-1293 Panel-Mounted Printer

4100-6038 RS-232 Dual Interface Module

84100-5111, -5112, -5113, SPS

4100-5125, -5126, -5127 RPS

4100-5101, -5102, -5103, and -5115 XPS

4100-5120, -5121, -5122 and -5124 True Alert
Power Supply

4100-0634 and -0635 Power Distribution Modules

4100-3101, -3104, -3105, and -3106 IDNET Card

4100-3107 IDNet+ Card

4100-3108 IDNet1+ Card

4100-3103 MAPNET II/IDNet Quad Isolator Module

4100-0620, -0623, and -0625 Transponder Interface
Card (TIC)

4100-0621 and -0622 Audio Riser Modules

4100-6030 Service Modem

4100-1288, -1289 LED/Switch Controller

4100-1275 to -1287, -1295,
-1296, -1299 to -1302 LED/Switch Modules

4100-6033 Alarm Relay Card

4100-0633, -6034 Tamper Switch

4100-0634, -0635 Power Distribution Modules

*4100-1210 and -1311 Audio Controller

4100-1312 thru 4100-1339, 4100-1361 thru 4100-1364 Flex Amplifiers

4100-1240 Audio Input Option

4100-1241 and -1242 Message Expansion

4100-1243 Microphone

4100-1245, -1248, 1266 Expansion NAC

4100-7153, -7155 Display Replacements

4100-0640, -7157 FUI Enhancements

743-560 Replacement Transponder Interface Card for RUI

4100-1246, -1249, 1267 Class A Adapter



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4100-1252 to -1255 Audio Operator Interface

4100-1270 Master Telephone

4100-3204, -3206 Auxiliary Relay Module

4100-1272 Phone Card

4100-1273 Phone Class A Adapter

4100-1314, -1315, -1318 through 1321, -1324, -1325 and 4100 1328, -1329, -1332 through 1335, -1338, -1339 100 Watt Amplifiers

4081-9306 and -9308 Expansion Battery Chargers

Model 4100-2101 One Bay Glass Door and Retainer

Model 4100-2102 Two Bay Glass Door and Retainer

Model 4100-2103 Three Bay Glass Door and Retainer

Models 4100-2111, -2117 One Bay Solid Door

Models 4100-2112, -2118 Two Bay Solid Door

Models 4100-2113, -2119 Three Bay Solid Door

Model 4100-2121 One Bay Glass Door and Retainer

Model 4100-2122 Two Bay Glass Door and Retainer

Model 4100-2123 Three Bay Glass Door and Retainer

Model 4100-2131 One Bay Solid Door

Model 4100-2132 Two Bay Solid Door

Model 4100-2133 Three Bay Solid Door

Model 4100-2104 1 Bay Plastic Door (Glass) & Dress Panel – Platinum

Model 4100-2105 2 Bay Plastic Door (Glass) & Dress Panel – Platinum

Model 4100-2106 3 Bay Plastic Door (Glass) & Dress Panel – Platinum



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Model 4100-2114 1 Bay Plastic Door (Solid) & Dress Panel- Platinum

Model 4100-2115 2 Bay Plastic Door (Solid) & Dress Panel – Platinum

Model 4100-2116 3 Bay Plastic Door (Solid) & Dress Panel – Platinum

Model 4100-2124 1 Bay Plastic Door (Glass) & Dress Panel – Red

Model 4100-2125 2 Bay Plastic Door (Glass) & Dress Panel – Red

4100-2126 3 Bay Plastic Door (Glass) & Dress Panel – Red

4100-2134 1 Bay Plastic Door (Solid) & Dress Panel – Red

4100-2135 2 Bay Plastic Door (Solid) & Dress Panel – Red

4100-2136 3 Bay Plastic Door (Solid) & Dress Panel – Red

Model 2975-9407 One Bay Backbox (Assembly 742-414)-Red

Model 2975-9408 Two Bay Backbox (Assembly 742-416)-Red

Model 2975-9409 Three Bay Backbox (Assembly 742-418)-Red

Model 2975-9410 One Bay Backbox (Assembly 742-413)-Beige

Model 2975-9411 Two Bay Backbox (Assembly 742-415)-Beige

Model 2975-9412 Three Bay Backbox (Assembly 742-717)-Beige

Model 2975-9811 (Assembly 742-637) - Beige Trimband

Model 2975-9812 (Assembly 742-638) - Red Trimband

Model 2975-9438 - 1 Bay Back Box – Platinum

Model 2975-9439 - 2 Bay Back Box – Platinum

Model 2975-9440 - 3 Bay Back Box – Platinum

Model 2975-9813 - Semi-Flush Trim Band – Platinum

Model 4100-1258 Audio Interface Module

Model 2975-9421 (Assembly 743-732) 1 Bay Enclosure with Glass Door – Red



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180312-S771
Report Reference S771-20010416
Issue Date 2018-MARCH-12

Model 2975-9422 (Assembly 742-877) 2 Bay Enclosure with Glass Door – Red
Model 2975-9423 (Assembly 742-878) 3 Bay Enclosure with Glass Door – Red
Model 2975-9424 (Assembly 743-733) 1 Bay Enclosure with Glass Door – Beige
Model 2975-9425 (Assembly 742-879) 2 Bay Enclosure with Glass Door – Beige
Model 975-9426 (Assembly 742-880) 3 Bay Enclosure with Glass Door – Beige
Model 2975-9427 (Assembly 743-734) 1 Bay Enclosure with Solid Door – Red
Model 2975-9428 (Assembly 742-881) 2 Bay Enclosure with Solid Door – Red
Model 2975-9429 (Assembly 742-882) 3 Bay Enclosure with Solid Door – Red
Model 2975-9430 (Assembly 743-735) 1 Bay Enclosure with Solid Door – Beige
Model 2975-9431 (Assembly 742-883) 2 Bay Enclosure with Solid Door – Beige
Model 2975-9441 - 1 Bay Back Box, Plastic Door (Glass) & Dress Panel – Red
Model 2975-9442, -9460 - 2 Bay Back Box, Plastic Door (Glass) & Dress Panel – Red
Model 2975-9443, 9458 - 3 Bay Back Box, Plastic Door (Glass) & Dress Panel – Red
Model 2975-9444 - 1 Bay Back Box, Plastic Door (Glass) & Dress Panel –Platinum
Model 2975-9445, -9459 - 2 Bay Back Box, Plastic Door (Glass) & Dress Panel – Platinum
Model 2975-9446, -9457 - 3 Bay Back Box, Plastic Door (Glass) & Dress Panel – Platinum
Model 2975-9447 - 1 Bay Back Box, Plastic Door (Solid) & Dress Panels– Red
Model 2975-9448 - 2 Bay Back Box, Plastic Door (Solid) & Dress Panel – Red
Model 2975-9449 - 3 Bay Back Box, Plastic Door (Solid) & Dress Panel – Red
Model 2975-9450 - 1 Bay Back Box, Plastic Door (Solid) & Dress Panel – Platinum
Model 2975-9451 - 2 Bay Back Box, Plastic Door (Solid) & Dress Panel – Platinum
Model 2975-9452 - 3 Bay Back Box, Plastic Door (Solid) & Dress Panel – Platinum



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180312-S771
Report Reference S771-20010416
Issue Date 2018-MARCH-12

Assembly 699-464 - 2 Bay Back Box – Red
Assembly 699-465 - 2 Bay Back Box – Platinum
Assembly 699-522 – 2 Bay Plastic Door (Glass) – Red
Assembly 699-523 – 2 Bay Plastic Door (Glass) – Platinum
Assembly 699-466 – 1 Bay Back Box – Red
Assembly 699-467 – 1 Bay Back Box – Platinum
Assembly 699-520 – 1 Bay Plastic Door (Glass) – Red
Assembly 699-521 – 1 Bay Plastic Door (Glass) – Platinum
Model 4100-6066 TFX Addressable Loop Interface Card
Model 4100-6077 MX Loop Interface Card
Model 4100-5130 TFX Voltage Regulator Module
Model 4100-1340 TFX Audio Interface Module
Model 4100U to TFX Fire Fighter Phone System
Model 4100-9865 Fiber Modem Phone Expansion Board
Model 4100-9866 Fiber Modem Phone Expansion Module
Model 4100-6069 BACpac Ethernet device
Model 4100-1274 Microphone Mux Module
Model 4100-6047 Building Network Interface Card (BNIC)
UL Fire Alarm, Security, Equipment:
Model 4100-9215 control unit
UL Fire Alarm, General, and Emergency Signaling Equipment:
Model 4100-9331, A100-9331



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180312-S771
Report Reference S771-20010416
Issue Date 2018-MARCH-12

ULC Fire Alarm and Security Equipment:

Models 4100-9001, -9111, -9112, -9113, -9114, -9115, -9116, -9121, -9122, -9131, 9132, -9133, -9211, -9212, -9213, -9214, -9222, -9230, -9231, -9232, -9233, -9234, -9235, -9236, -9237, -9238, -9312, -9313, -9315, -9316, -9332, -9511, -9512, -9531, -9532, -9533, -9534, -9600, -9601 and -9602 control units.

Models A100-9511, -9512

Models 4100-9141 through -9146, -9151 through -9156, -9241 through -9246, 9342, -9352, -9355, -9542 Network Display Units

Models 4100-9157, -9158, -9159, -9160, -9161, -9162, -9163, -9164, -9165, -9252, -9253, -9168, -9169, -9170, -9248, -9249, -9357, -9358, -9359, -9250, -9251, and -9545 Network Display Units

Model 4100-9643 Utility Cabinet

Model 4100-9607 through -9615 remote annunciators

Model 4100-3115 XA loop interface card.

Model 4003-9803 Remote Microphone Module

Model 4009 TPS NAC Expander

4090-9117 Addressable Power Isolator

4090-9116 Addressable IDNET Isolator

4090-9116TSP Addressable IDNET Isolator

4100-1244 Remote Microphone

4100-9401, -9403, -9421, -9423, -9441, -9443 Remote User Interface

4100-1271 Remote Telephone

ULC Fire Alarm and Security Subassembly:

Models 4100-6104, -6306, -6308, -6309, -6310 ES Network Media Cards.

Model 4100-7150, -7158, -7152, -7154, -7156 and -9833 Master Controller Replacements

4100-9620 and -9621 Audio Master Controllers



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180312-S771
Report Reference S771-20010416
Issue Date 2018-MARCH-12

4190-6104 Remote Service Gateway
4190-6107 Cellular TrueInsight Remote Service Gateway
4100-1293 Panel-Mounted Printer
4100-6038 RS-232 Dual Interface Module
84100-5111, -5112, -5113, SPS
4100-5125, -5126, -5127 RPS
4100-5101, -5102, -5103, and -5115 XPS
4100-5120, -5121, -5122 and -5124 True Alert
Power Supply
4100-0634 and -0635 Power Distribution Modules
4100-3101, -3104, -3105, and -3106 IDNET Card
4100-3103 MAPNET II/IDNet Quad Isolator Module
4100-0620, -0623, and -0625 Transponder Interface
Card (TIC)
4100-0621 and -0622 Audio Riser Modules
4100-6030 Service Modem
4100-1288, -1289 LED/Switch Controller
4100-1275 to -1287, -1295,
-1296, -1299 to -1302 LED/Switch Modules
4100-6033 Alarm Relay Card
4100-0633, -6034 Tamper Switch
4100-0634, -0635 Power Distribution Modules



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180312-S771
Report Reference S771-20010416
Issue Date 2018-MARCH-12

4100-1210 and -1311 Audio Controller
4100-1312 thru 4100-1339, 4100-1361 thru 4100-1364 Flex Amplifiers
4100-1240 Audio Input Option
4100-1241 and -1242 Message Expansion
4100-1243 Microphone
4100-1245, -1248, 1266 Expansion NAC
4100-7153, -7155 Display Replacements
4100-0640, -7157 FUI Enhancements
743-560 Replacement Transponder Interface Card for RUI
4100-1246, -1249, 1267 Class A Adapter
4100-1252 to -1255 Audio Operator Interface
4100-1270 Master Telephone
4100-3204, -3206 Auxiliary Relay Module
4100-1272 Phone Card
4100-1273 Phone Class A Adapter
4100-1316, -1317, -1322, -1323 and 4100 1330, -1331, -1336, 1337
100 Watt Amplifiers
UL/ULC Fire Alarm and Security Equipment:
4100-5013 Zone/Relay Module
4081-9306 and -9308 Expansion Battery Chargers
Model 4100-2101 One Bay Glass Door and Retainer
Model 4100-2102 Two Bay Glass Door and Retainer
Model 4100-2103 Three Bay Glass Door and Retainer



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180312-S771
Report Reference S771-20010416
Issue Date 2018-MARCH-12

Models 4100-2111, -2117 One Bay Solid Door

Models 4100-2112, -2118 Two Bay Solid Door

Models 4100-2113, -2119 Three Bay Solid Door

Model 4100-2121 One Bay Glass Door and Retainer

Model 4100-2122 Two Bay Glass Door and Retainer

Model 4100-2123 Three Bay Glass Door and Retainer

Model 4100-2131 One Bay Solid Door

Model 4100-2132 Two Bay Solid Door

Model 4100-2133 Three Bay Solid Door

Model 4100-2104 1 Bay Plastic Door (Glass) & Dress Panel – Platinum

Model 4100-2105 2 Bay Plastic Door (Glass) & Dress Panel – Platinum

Model 4100-2106 3 Bay Plastic Door (Glass) & Dress Panel – Platinum

Model 4100-2114 1 Bay Plastic Door (Solid) & Dress Panel- Platinum

Model 4100-2115 2 Bay Plastic Door (Solid) & Dress Panel – Platinum

Model 4100-2116 3 Bay Plastic Door (Solid) & Dress Panel – Platinum

Model 4100-2124 1 Bay Plastic Door (Glass) & Dress Panel – Red

Model 4100-2125 2 Bay Plastic Door (Glass) & Dress Panel – Red

4100-2126 3 Bay Plastic Door (Glass) & Dress Panel – Red

4100-2134 1 Bay Plastic Door (Solid) & Dress Panel – Red

4100-2135 2 Bay Plastic Door (Solid) & Dress Panel – Red

4100-2136 3 Bay Plastic Door (Solid) & Dress Panel – Red

Model 2975-9407 One Bay Backbox (Assembly 742-414)-Red



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180312-S771
Report Reference S771-20010416
Issue Date 2018-MARCH-12

Model 2975-9408 Two Bay Backbox (Assembly 742-416)-Red
Model 2975-9409 Three Bay Backbox (Assembly 742-418)-Red
Model 2975-9410 One Bay Backbox (Assembly 742-413)-Beige
Model 2975-9411 Two Bay Backbox (Assembly 742-415)-Beige
Model 2975-9412 Three Bay Backbox (Assembly 742-717)-Beige
Model 2975-9811 (Assembly 742-637) - Beige Trimband
Model 2975-9812 (Assembly 742-638) - Red Trimband
Model 2975-9438 - 1 Bay Back Box – Platinum
Model 2975-9439 - 2 Bay Back Box – Platinum
Model 2975-9440 - 3 Bay Back Box – Platinum
Model 2975-9813 - Semi-Flush Trim Band – Platinum
Model 4100-1258 Audio Interface Module
Model 2975-9421 (Assembly 743-732) 1 Bay Enclosure with Glass Door – Red
Model 2975-9422 (Assembly 742-877) 2 Bay Enclosure with Glass Door – Red
Model 2975-9423 (Assembly 742-878) 3 Bay Enclosure with Glass Door – Red
Model 2975-9424 (Assembly 743-733) 1 Bay Enclosure with Glass Door – Beige
Model 2975-9425 (Assembly 742-879) 2 Bay Enclosure with Glass Door – Beige
Model 975-9426 (Assembly 742-880) 3 Bay Enclosure with Glass Door – Beige
Model 2975-9427 (Assembly 743-734) 1 Bay Enclosure with Solid Door – Red
Model 2975-9428 (Assembly 742-881) 2 Bay Enclosure with Solid Door – Red
Model 2975-9429 (Assembly 742-882) 3 Bay Enclosure with Solid Door – Red
Model 2975-9430 (Assembly 743-735) 1 Bay Enclosure with Solid Door – Beige



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180312-S771
Report Reference S771-20010416
Issue Date 2018-MARCH-12

Model 2975-9431 (Assembly 742-883) 2 Bay Enclosure with Solid Door – Beige
Model 2975-9441 - 1 Bay Back Box, Plastic Door (Glass) & Dress Panel – Red
Model 2975-9442, -9460 - 2 Bay Back Box, Plastic Door (Glass) & Dress Panel – Red
Model 2975-9443, -9458 - 3 Bay Back Box, Plastic Door (Glass) & Dress Panel – Red
Model 2975-9444 - 1 Bay Back Box, Plastic Door (Glass) & Dress Panel –Platinum
Model 2975-9445, -9449 - 2 Bay Back Box, Plastic Door (Glass) & Dress Panel – Platinum
Model 2975-9446, -9457 - 3 Bay Back Box, Plastic Door (Glass) & Dress Panel – Platinum
Model 2975-9447 - 1 Bay Back Box, Plastic Door (Solid) & Dress Panels– Red
Model 2975-9448 - 2 Bay Back Box, Plastic Door (Solid) & Dress Panel – Red
Model 2975-9449 - 3 Bay Back Box, Plastic Door (Solid) & Dress Panel – Red
Model 2975-9450 - 1 Bay Back Box, Plastic Door (Solid) & Dress Panel – Platinum
Model 2975-9451 - 2 Bay Back Box, Plastic Door (Solid) & Dress Panel – Platinum
Model 2975-9452 - 3 Bay Back Box, Plastic Door (Solid) & Dress Panel – Platinum
Model 4100-6066 TFX Addressable Loop Interface Card
Model 4100-6077 MX Loop Interface Card
Model 4100-5130 TFX Voltage Regulator Module
Model 4100-1340 TFX Audio Interface Module
Model 4100U to TFX Fire Fighter Phone System
Model 4100-9865 Fiber Modem Phone Expansion Board
Model 4100-9866 Fiber Modem Phone Expansion Module
Model 4100-6069 BACpac Ethernet device
Model 4100-1274 Microphone Mux Module



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180312-S771
Report Reference S771-20010416
Issue Date 2018-MARCH-12

Model 4100-6047 Building Network Interface Card (BNIC)

UL Fire Alarm and Emergency Signaling Equipment:

Model 4100-9311, -9111, -9114, -9121, -9122, -9314, -9112, -9113, -9115, -9116, -9211, -9212, -9213, -9214, -9215, -9222, -9511, -9512, -9513 control unit

Models A100-9311, -9314 -9511, -9512, -9513

4100-9607, -9608, -9609, -9610, -9611, -9612, -9613, -9614, -9615 Remote Annunciators.

UL Fire Alarm and Emergency Signaling Subassembly:

4100-9620 and -9621 Audio Master Controllers

4100-3101, -3104, -3105, -3106 IDNET Cards

4100-3108 IDNet1+ Card

4100-0623 Transponder Interface Card (TIC)

4100-1275, -1276, -1277, -1278, -1280, -1281, -1282, -1283, -1284, -1286, -1287, -1288, -1289, -1295, -1296, -1299, -1300, -1301, -1302 LED/Switch Modules

4100-1311, -1210 Audio Controller

4100-1240 Audio Input Option

4100-1241 and -1242 Message Expansion

4100-1243, 4100-1244, 4003-9803 Remote Microphone

4100-1248 Expansion NAC

4100 1267 Class A Adapter

4100-1312, -1313, -1314, -1315, -1316, -1317, -1318, -1319, -1361, -1362, -1326, -1327, -1328, -1329, -1330, -1331, -1332, -1333, -1363, -1364 Amplifiers

4100-5101, -5102, -5103, -5311, -5313, -5325, -5327, -5111, -5112, -5113, -5125, -5126, -5127 Power Supplies



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180312-S771
Report Reference S771-20010416
Issue Date 2018-MARCH-12

UL Fire Alarm Equipment:

Control Units Models 4100-9211KR, -9212KR.

UL Fire Alarm Subassembly:

Master Telephone Model 4100-1270KR, Phone Card Model 4100-1272KR, Remote Telephone Model 4100-1271KR, Power Supply Expansion Power Supply (XPS) Model 4100-5102KR, System Power Supply (SPS) Model 4100-5113KR, IDNET Card Model 4100-3101KR, LED/Switch Modules Models 4100-1287KR, -1286KR.

Model 4100-6072 Single Mode Left Port Fiber Optic Modem

Model 4100-6073 Single Mode Right Port Fiber Optic Modem

Model 4100-6074 Multimode Left Port Fiber Optic Modem

Model 4100-6075 Multimode Right Port Fiber Optic Modem

UL/ULC Fire Alarm and UL Emergency Signaling Subassembly:

Fiber Optic Modem, Part No. 4190-9021, -9022, -9023, -9024, -9025 -9026

UL/ULC Fire Alarm Subassembly:

Models 4100-6031 & 4100-6032 City Modules

UL Fire Alarm Subassembly and UL/ULC Security Subassembly:

4100-9816 Master Clock Interface

Standards for Safety:

UL 864, Control Units and Accessories for Fire Alarm Systems

UL 1076, Proprietary Burglar Alarm Units and Systems

UL 1730, Smoke Detector Monitors and Accessories for Individual Living Units of Multifamily Residences and Hotel/Motel Rooms

UL 2017 General-Purpose Signaling Devices and Systems

UL 2572 Mass Notification Systems

CAN/ULC-S559-13, Equipment for Fire Signal Receiving Centers and Systems

CAN/ULC-S527-11, Control Units for Fire Alarm Systems

ULC/ORD C1076 Proprietary Burglar Alarm Units and Systems

ULC/ORD C100 Smoke Control System Equipment



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CERTIFICATE OF COMPLIANCE

Certificate Number 20171117-S1199
Report Reference S1199-19970321
Issue Date 2017-NOVEMBER-17

Issued to: SIMPLEX TIME RECORDER CO
50 TECHNOLOGY DR
WESTMINSTER MA 01441

This is to certify that
representative samples of SMOKE-AUTOMATIC FIRE DETECTORS; SMOKE-AUTOMATIC FIRE DETECTORS
See Addendum Page for Models

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 268, Smoke Detectors For Fire Protective Signaling
Systems
CAN/ULC S529-09, Smoke Detectors for Fire alarm
Systems

Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

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Look for the UL Certification Mark on the product.



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CERTIFICATE OF COMPLIANCE

Certificate Number 20171117-S1199
Report Reference S1199-19970321
Issue Date 2017-NOVEMBER-17

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Fire Alarm Subassembly:

USL - Smoke detector, photoelectric analog, Models GSA4098-9714, -9714TTP, and A4098-9714BA.

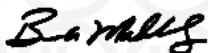
Smoke/heat detector, photoelectric analog, 135°F fixed and 12°F
Rate of rise, Model GSA4098-9754.

CNL - Smoke detector, photoelectric analog, Model 4098-9714C, .

Smoke/heat detector, photoelectric analog, 135°F fixed and 12°F
Rate of rise, Model 4098-9754C.

USL/CNL - Smoke detectors, photoelectric analog, Model 4098-9714,
4098-9714TP, 4098-9774, JTY-GM-CN 4098-9714, 4098-9714-9792, A4098-9714, and A4098-9774.

Smoke/heat detector, photoelectric analog, 135°F fixed and 12°F
Rate of rise, Model 4098-9754, CN 4098-9754 and 4098-9779.



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180305-S844
Report Reference S844-19961127
Issue Date 2018-MARCH-05

Issued to: Simplex Time Recorder Co
50 TECHNOLOGY DR
WESTMINSTER MA 01441

**This is to certify that
representative samples of** HEAT-AUTOMATIC FIRE DETECTORS
See Addendum Page for Models

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 521, Heat Detectors for Fire Protective Signaling
Systems
CAN/ULC-S530, Heat Actuated Fire Detectors for Fire
Alarm Systems

Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

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CERTIFICATE OF COMPLIANCE

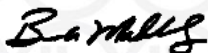
Certificate Number 20180305-S844
Report Reference S844-19961127
Issue Date 2018-MARCH-05

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Heat detector for fire alarm service. Electronic, Models JTW-ZOM-CN 4098-9733, 4098-9778, GSA4098-9733, 4098-9733E, GSA4098-9734, and 4098-9734E.

Heat detector for fire alarm service. Electronic, Model 4098-9733C.

Heat detector for fire alarm service. Electronic, Models 4098-9733, 4098-9778 and 4098-9734.



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CERTIFICATE OF COMPLIANCE

Certificate Number 20130809-S771
Report Reference S771-19971107
Issue Date 2013-AUGUST-09

Issued to: SIMPLEX TIME RECORDER CO
50 TECHNOLOGY DR
WESTMINSTER MA 01441

**This is to certify that
representative samples of**

CONTROL UNIT ACCESSORIES, SYSTEM; CONTROL
AND COMMUNICATION EQUIPMENT
See Addendum

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety:

UL864, Control Units and Accessories for Fire Alarm
Systems
UL1711, Amplifiers for Fire Protective Signaling Systems
UL2572, Mass Notification Systems

Additional Information:

See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Listing Mark should be considered as being covered by UL's
Listing and Follow-Up Service.

The UL Listing Mark generally includes the following elements: the symbol UL in a circle:  with the
word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category
name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product.



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CERTIFICATE OF COMPLIANCE

Certificate Number 20130809-S771
Report Reference S771-19971107
Issue Date 2013-AUGUST-09

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Fire Alarm Equipment - Supervised IAM (4090-9001TSP, CN-4090-9001) monitor module; Relay IAM (4090-9002TSP,) Relay Module; Class "A" ZAM (4090-9106TSP,) Initiating Module; Class "B" ZAM (4090-9101TSP, CN-4090-9101) Initiating Module, Two Point I/O Module (2190 9173).

Fire Alarm and Emergency Equipment - 4090-9001 Supervised IAM, 4090-9051 Encapsulated IAM, 4090-9002 Relay IAM, 4090-9101 Class B ZAM, 4090-9106 Class A ZAMs.



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CERTIFICATE OF COMPLIANCE

Certificate Number 20150819-E31205
Report Reference E31205-20040115
Issue Date 2015-AUGUST-19

Issued to: SIMPLEX TIME RECORDER CO
50 TECHNOLOGY DR
WESTMINSTER MA 01441

**This is to certify that
representative samples of**

AUDIBLE-SIGNAL APPLIANCES; VISUAL AND VISUAL-
AUDIBLE SIGNAL APPLIANCES, FIRE ALARM,
INCLUDING ACCESSORIES; SIGNALING APPLIANCES
AND EQUIPMENT FOR THE HEARING IMPAIRED.
See Addendum Page

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety:

UL 464, Audible Signal Appliances.
UL 1971, Signaling Devices for the Hearing Impaired.
CAN/ULC-S525-07, Audible Signal Devices for Fire Alarm
Systems, Including Accessories.
ULC-S526, Visible Signal Devices for Fire Alarm Systems,
Including Accessories.

Additional Information:

See the UL Online Certifications Directory at
www.ul.com/database for additional information

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CERTIFICATE OF COMPLIANCE

Certificate Number 20150819-E31205
Report Reference E31205-20040115
Issue Date 2015-AUGUST-19

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Fire Alarm Equipment:

Audible signal appliance for fire alarm use with signaling appliance for the hearing impaired, Models **4906-6127**, 4906-9127, 4906-9129, 4906-9139, 4906-9141 wall mount and Models 4906-6128, 4906-9128, 9906-9130, 4906-9140, 4906-9142 ceiling mount horn/strobes for indoor use only.

Audible Signal Appliance Accessories – Model 4905-9838 Sound Damper, Model 4905-9937/-9940 surface mount skirts.



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180306-S3079
Report Reference S3079-20090124
Issue Date 2018-MARCH-06

Issued to: SIMPLEX TIME RECORDER CO
50 TECHNOLOGY DR
WESTMINSTER MA 01441

**This is to certify that
representative samples of**

VISUAL-SIGNAL APPLIANCES FOR FIRE-PROTECTIVE
SIGNALING SYSTEMS
AUDIBLE-SIGNAL APPLIANCES
SIGNALING APPLIANCES AND EQUIPMENT FOR THE
HEARING IMPAIRED
See Addendum

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety:

UL 464, Audible Signal Appliances
UL 1638, Visual Signaling Appliances - Private Mode
Emergency and General Utility Signaling
UL 1971, Signaling Devices for the Hearing Impaired
CAN/ULC-S525-07, Audible Signal Devices for Fire Alarm
Systems, Including Accessories
CAN/ULC-S526-07, Visible Signal Devices for Fire Alarm
Systems, Including Accessories

Additional Information:

See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's
Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.



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CERTIFICATE OF COMPLIANCE

Certificate Number 20180306-S3079
Report Reference S3079-20090124
Issue Date 2018-MARCH-06

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Fire Alarm Equipment:

USL-1 Horn/Strobe models 4906-9131, 4906-6131, and 4906-9132.

USL-2 Strobe models 4906-9105 and 4906-9106.

CNL-1 Horn/Strobe model 4906-9143.

CNL-2 Strobe model 4906-9113.

USL-1, CNL-1 Weatherproof backbox models 49WPBB-AVVOWR and 49WPBB-AVVOWW.



Bruce Mahrenholz, Director North American Certification Program

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CERTIFICATE OF COMPLIANCE

Certificate Number S772
Report Reference S772-1991-08-09
Date 2023-June-21

Issued to: Simplex Time Recorder Co
6 Technology Park Dr
Westford MA, 01886 US

**This is to certify that
representative samples of** BOXES, NONCODED
See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 38, Manual Signaling Boxes for Fire Alarm Systems
CAN/ULC-S528-14, Manual Stations for Fire Alarm
Systems, Including Accessories

Additional Information: See the UL Online Certifications Directory at
<https://iq.ulprospector.com> for additional information

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.


Deborah Jennings-Conner, VP Regulatory Services

UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number S772
Report Reference S772-1991-08-09
Date 2023-June-21

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Fire Alarm Equipment:

USL Non-coded Boxes, Type 2099-9101, -9102, -9103, -9104, -9105, -9107, -9108, -9147, -9148, -9149, -9152, -9754, -9755, -9756, -9757, -9758, -9759 and -9762.

CNL1, CNL2 Non-coded Boxes, Type 2099-9101, -9102, -9104, -9107, -9149, -9152, -9754.

USL Non-coded boxes, Type 4099-9001, -9002, -9003, -9004, -9005, -9006, -9010, -9011, -9012, -9015, -9020, and -9021 addressable boxes. Intended for use with the manufacturer's separately Listed 4010, 4100, and 4008 control units.

CNL1, CNL2 Non-coded boxes, Type 4099-9004, -9005, -9006, -9015, and -9021 addressable boxes. Intended for use with the manufacturer's separately Listed 4010, 4100, and 4008 control units.

CNL2 Non-coded boxes, Type 4099-9004CB, -9004CF addressable boxes. Intended for use with the manufacturer's separately Listed 4010, 4100, and 4020 control units.

USL Non-coded boxes, Type 4099-5201, -5202 addressable boxes. Intended for use with the manufacturer's separately Listed 4100 control unit. Type 4099-9004SP, -9004PO, -9005SP, -9005PO, -9006SP, -9006PO. Intended for use with the manufacturer's separately Listed 4010, 4100, and 4008 control units. Type 4099-5205 addressable box. Marketed for use with a third party's Listed control unit. Type A4099-5201, -5202 addressable boxes. Intended for use with the manufacturer's separately Listed Autocall 4100ES control unit.

USL Non-coded boxes, Type 4099-5212, -5213, -5214, -5215, -5216 addressable boxes. Intended for use with the manufacturer's separately Listed 4010ES & 4100ES control unit.

Fire Alarm Subassembly:

USL Alarm Box Accessory, ADA Conversion Kit Type 4099-9805. Intended for use with the manufacturer's noncoded box models 2099-9101, -9102, -9107, -9754, -9755 and models 4099-9004, -5201 and -5214.

CNL1, CNL2 Alarm Box Accessory, ADA Conversion Kit Type 4099-9805. Intended for use with the manufacturer's noncoded box models 2099-9101, -9102, 9107, 9754 and model 4099-9004.

Deborah Jennings-Conner
Deborah Jennings-Conner, VP Regulatory Services

UL LLC



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Programmable Fire Alarm Control Series 4100U/ES

Certificate Number: **FM23FPUS0122-5**

Company

Simplex Time Recorder LLC

6 Technology Park Drive, Westford , Massachusetts 01886

United States of America

<http://simplexgrinnell.com>



Detection, Fire Alarm and Signaling Equipment | Fire Alarm Control Panels | [Local Protective Signaling, Fire](#)

Detection, Fire Alarm and Signaling Equipment | Fire Alarm Control Panels | [Emergency Voice/Alarm Communication Systems, Fire](#)

Detection, Fire Alarm and Signaling Equipment | Fire Alarm Control Panels | [Remote Station Signaling Systems, Fire](#)

Detection, Fire Alarm and Signaling Equipment | Fire Alarm Control Panels | [Central Station Signaling Systems, Fire](#)

Detection, Fire Alarm and Signaling Equipment | Fire Alarm Control Panels | [Proprietary Signaling Systems, Fire](#)

Fixed Extinguishing Systems | Deluge and Preaction Systems | [Automatic Releases, Preaction and Deluge Sprinkler Systems](#)

Programmable Fire Alarm Control Series 4100U/ES

Description of Equipment:

Programmable Fire Alarm Control Series 4100U/ES		
Fire Alarm Control, Series 4100U/ES. Programmable control panel uses revision 6.04 operating [executive/configuration] software. The 4100U/ES consists of the following components:		
Enclosures		
Back box specifications		
1 Bay (height: 22" / 559 mm.)	Beige	2975-9410
	Red	2975-9407
	Platinum	2975-9438



2 Bay (height: 40" / 1016 mm)

Beige

2975-9411

Red

2975-9408

Platinum

2975-9439

3 Bay (height: 56" / 1422 mm)

Beige

2975-9412

Red

2975-9409

Platinum

2975-9440

Trim kit specifications

Beige

2975-9811

Red

2975-9812

Platinum

2975-9813

Door specifications



Beige

Glass/Metal (Dress Panel Included)

1 Bay (height: 22" / 559 mm)

4100-2101

2 Bay (height: 40" / 1016 mm)

4100-2102

3 Bay (height: 56" / 1422 mm)

4100-2103

Solid Metal

1 Bay (height: 22" / 559 mm)

4100-2111

2 Bay (height: 40" / 1016 mm)

4100-2112

3 Bay (height: 56" / 1422 mm)

4100-2113



Red

Glass/Metal (Dress Panel Included)

1 Bay (height: 22" / 559 mm)

4100-2121

2 Bay (height: 40" / 1016 mm)

4100-2122

3 Bay (height: 56" / 1422 mm)

4100-2123

Glass/Metal (Dress Panel Included)

1 Bay (height: 22" / 559 mm)

4100-2124

2 Bay (height: 40" / 1016 mm)

4100-2125

3 Bay (height: 56" / 1422 mm)

4100-2126

Solid Metal

1 Bay (height: 22" / 559 mm)

4100-2131

2 Bay (height: 40" / 1016 mm)

4100-2132

3 Bay (height: 56" / 1422 mm)

4100-2133

Solid Plastic

1 Bay (height: 22" / 559 mm)

4100-2134

2 Bay (height: 40" / 1016 mm)

4100-2135

3 Bay (height: 56" / 1422 mm)

4100-2136



Platinum	Glass/Metal (Dress Panel Included)	1 Bay (height: 22" / 559 mm)	4100-2104
		2 Bay (height: 40" / 1016 mm)	4100-2105
		3 Bay (height: 56" / 1422 mm)	4100-2106
	Solid Plastic	1 Bay (height: 22" / 559 mm)	4100-2114
		2 Bay (height: 40" / 1016 mm)	4100-2115
		3 Bay (height: 56" / 1422 mm)	4100-2116

Enclosure specifications These enclosures include the back box, the door, and the dress panel (for glass doors only).

Expansion Bays		4100-2300, 4100-2301	
Rack Mount mounting kits		4100-2140, 4100-2144, 4100-2145	
Battery Shelf		4100-0650	
Utility Cabinet		4100-9643, 4100-9141, 4100-9142, 4100-9143, 4100-9144, 4100-9145, 4100-9146	
Back Box	Color	Door Type	Model



1 Bay (height: 22" / 559 mm)

Red

Glass/Metal Door & Dress Panel

2975-9421

Solid Metal Door

2975-9427

Glass/Plastic Door & Dress Panel

2975-9441

Solid Plastic Door

2975-9447

Beige

Glass/Metal Door & Dress Panel

2975-9424

Solid Metal Door

2975-9430

Platinum

Glass/Plastic Door & Dress Panel

2975-9444

Solid Plastic Door

2975-9450



2 Bay (height: 40" / 1016 mm)

Red

Glass/Metal Door & Dress Panel

2975-9422

Solid Metal Door

2975-9428

Glass/Plastic Door & Dress Panel

2975-9442

Solid Plastic Door

2975-9448

Beige

Glass/Metal Door & Dress Panel

2975-9425

Solid Metal Door

2975-9431

Platinum

Glass/Plastic Door & Dress Panel

2975-9445

Solid Plastic Door

2975-9451



3 Bay (height: 56" / 1422 mm)	Red	Glass Door & Dress Panels	2975-9423
		Solid Metal Door	2975-9429
		Glass/Plastic Door & Dress Panel	2975-9443
		Solid Plastic Door	2975-9449
	Beige	Glass/Metal Door & Dress Panel	2975-9426
		Solid Metal Door	2975-9432
	Platinum	Glass/Plastic Door & Dress Panel	2975-9446
		Solid Plastic Door	2975-9452
4190-7013TrueSite Incident Commander doors and enclosures			
Color	Door Type	Description	Door Model
Red	Glass/Plastic Door & Custom Dress Panel	2 Bay (height: 40" / 1016 mm)	4100-2127
		3 Bay (height: 56" / 1422 mm)	4100-2128



Platinum	Glass/Plastic Door & Custom Dress Panel	2 Bay (height: 40" / 1016 mm)	4100-2107
		3 Bay (height: 56" / 1422 mm)	4100-2108
Color	Door Type	Back Box Description	Encl. Model
Red	Glass/Plastic Door & Custom Dress Panel	2 Bay (height: 40" / 1016 mm)	2975-9460
		3 Bay (height: 56" / 1422 mm)	2975-9458
Platinum	Glass/Plastic Door & Custom Dress Panel	2 Bay (height: 40" / 1016 mm)	2975-9459
		3 Bay (height: 56" / 1422 mm)	2975-9457
TrueSite Incident Commander notes:		1. The Incident Commander must be installed in the 2nd Bay. 2. For complete mounting instruction refer to manual 579-1016.	
Fiber Optic communication modules expansion cabinets		4190-9021, or 4190-9022 (single mode), or 4190-9024 or 4190-9025 (multi-mode).	
Master controller assemblies			
Master controller assemblies (2 by 40 display)		4100-9311, 4100-9312, 4100-9313	



Master controller assemblies large screen LCD display

4100-9211, 4100-9215, 4100-9314, 4100-9315, 4100-9316, 4100-9511, 4100-9512, 4100-9313, A100-9311, A100-9314, A100-9314, A100-9511, A100-9512, A100-9513

2 by 40 to large LCD upgrade kit (display door only)

4100-7153, 4100-7155

Master Controller Replacement (entire master controller assembly)

4100-7154, 4100-7156

4100U/ES 4100-9901 through -9926 Retro-Fit Kits

The 4100U/ES assemblies can be retro-fitted into a previously installed type 2975-9148, 2975-9149, 2975-9150, 2975-9152, 2975-9153, 2975-9156, 2975-9163, 2975-9165, 2975-9167, 2975-9168, 2975-9192, 2975-9193, 2975-9194, or 2975-9195 backbox.

Optional master controller assemblies without display

4100-9131, 4100-9132, 4100-9133, 4100-9230, 4100-9331, 4100-9332, A100-9331

CPU Card with expanded memory to support symbolic languages (Arabic, Far Eastern, etc.).

4100-7157

Power Supplies

Power distribution modules

4100-0634, 4100-0635

Battery distribution termination module

4100-5128

Additional Units



Remote user interfaces

4100-9607, 4100-9608, 4100-9609, 4100-9610, 4100-9611, 4100-9612, 4100-9613, 4100-9614, 4100-9401, 4100-9402, 4100-9421, 4100-9422, 4100-9441

PC Annunciator using version 1.01 operating software.

4190-8201

Network display units

4100-9151, 4100-9152, 4100-9153, 4100-9154, 4100-9155, 4100-9156, 4100-9241, 4100-9242, 4100-9243, 4100-9245, 4100-9246, 4100-9342, 4100-9352, 4100-9355, 4100-9542

Transponders

4100-9600, 4100-9601

Communications modules

modular network interface

4100-6014, 4100-6078 with 6056 wired (RS-485) communication media module or 6057 fiber communication media module.

Class X TCP/IP Physical Bridge

4100-9849 or 4100-9863 [old NFPA 72 designation: Style 4] Class B or 4100-9864 or 4100-9864 [old NFPA 72 designation: Style 7]

Service modem cards

4100-6030, 4100-6055

Building Network Interface card

4100-6047

City circuit modules

4100-6031, 4100-6032

Alarm relay card

4100-6033



Addressable tamper switch	4100-6034
Dual RS-232 interface card	4100-6038
Decoder module	4100-6045
Master clock interface	4100-9816
VESDA interface for connecting the VESDA LaserPLUS and LaserScanner aspiration type smoke detectors	4100-6048
Fiber Optic communication modules	4100-6072 and 4100-6073 (single mode), 4100-6074 and 4100-6075 (multimode).
4120 Fiber Media Bidi card modules	4190-6301 [single mode left (SM - L)], 4190-6302 [single mode right (SM - R)], 4190-6303 [multi-mode left (MM - L)], and 4190-6304 [multi-mode right (MM - R)].
Expansion Cabinet Modules	
Port Fiber Optic communication module (single mode)	4100-9023
Port Fiber Optic communication module (multi-mode)	4100-9026
Auxiliary relay modules	4100-3201, 4100-3203
Relay modules	4100-3204, 4100-3207, 4100-3206, 4100-3209, 4100-3202 and 4100-3208



Power supplies

4100-5101, 4100-5102, 4100-5103, 4100-5311, 4100-5313, 4100-5111, 4100-5112, 4100-5113, 4100-5325, 4100-5327, 4100-5125, 4100-5126, and 4100-5127

Dual Class A Isolator for use in the 4100-5311, -5313, -5325, -5327, A100-5311, and -5313 power supplies,

4100-6103

Expansion NAC card for the 4100-51xx power supplies

4100-5115

Expansion signal card

4100-5120, 4100-5121, 4100-5122, 4100-5116

Expansion NAC card for the expansion signal card

4100-1266

Class A adapter for the expansion signal card power supplies

4100-1267

Temporal Code Four Module

4905-9835

IDNAC Repeaters for use with the 4100-5311, -5313, -5325, -5327, A100-5311, and -5313 power supplies

4009-9601 and 4009-9602

TrueAlert Adapter Module

4905-9816

SmartSync Adapter Module

4905-9815

Class A adapter for the TrueAlert power supplies

4100-5124

12-volt power option card

4100-5152



8-volt converter car	4100-0156
LED/Switch modules	4100-1275, 4100-1276, 4100-1277, 4100-1279, 4100-1280, 4100-1281, 4100-1282, 4100-1283, 4100-1284, 4100-1285, 4100-1286, 4100-1287, 4100-1295, 4100-1296, 4100-1297, 4100-1298, 4100-1299
LED/Switch controller modules	4100-1288, 4100-1289, 4100-1290
Remote unit interface	4100-1291
Panel-mounted LCD annunciator	4100-1292
LCD Annunciator	4603-9101
Panel-mounted printer	4100-1293 and 4190-9027
Transponder interface cards	4100-0620, 4100-0623, 4100-0625 and !0743-560
Transponder cabinet tamper switch	4100-0633
Terminal block utility module	4100-0632
Zone modules which are compatible with two-wire detectors	4100-5005 Class B, 4100-5015 Class A
MAPNET II Interface	4100-3102



MAPNET/IDNet isolator module

4100-3103

Class A monitor ZAMs

2190-9153 and 2190-9154

Class B monitor ZAMs

2190-9155 and 2190-9156

4-wire detector ZAMs

2190-9157 and 2190-9158

Class A signal ZAMs

2190-9159 and 2190-9160

Class B signal ZAMs

2190-9161 and 2190-9162

Control relay ZAMs

2190-9163 and 2190-9164

Supervised IAM

2190-9173

Detectors

Smoke detectors

2098-9201, 2098-9202, 2098-9203, 4098-9714, A4098-9714, 4098-9774, A4098-9774, GSA4098-9714, A4098-9714BA, JTY-GM-CN, 4098-9717, GSA4098-9717, 4098-9754, 4098-9779, GSA4098-9754, 2098-9576, 2098-9211 and 2098-9637 bases.



Heat Detectors

GSA4098-9733, GSA4098-9733, CN 4098-9733, 4098-9734, GSA4098-9734 with 4098-9789(E), -9791(E), -9792(E), CN 4098-9792, -9793(E),* and 9794(E), -9797, -9798, -9770, AND -9771 sensor heads with bases. 4098-9780, GSA4098-9780, 4098-9789, 4098-9775, GSA4098-9789, 4098-9791, 4098-9792, 4098-9776, GSA4098-9792, JTY-GM-CN4098-9792, 4098-9793, 4098-9777, GSA4098-9793, * 4098-9794, GSA4098-9794, 4098-9795, GSA4098-9795, 4098-9796, GSA4098-9796, 4098-9770, 4098-9771, 4098-9772 (520Hz), 4098-9773 (520Hz) Sounder Bases.

Duct Type Detectors

4098-9733E, 4098-9734E sensor heads with bases 4098-9780E, 4098-9789E, 4098-9791E, 4098-9792E, 4098-9793E, 4098-9794E and 4098-9755 and 9756 duct type sensor housings

Reflective Beam Detector

4098-9019

Addressable detector bases

2098-9651 and 2098-9652

Addressable manual stations

2099-9761, 2099-9795, 2099-9796 and 2099-9797, 4099-9147, 4099-9148 and 4099-9149



MAPNET II circuit compatible TrueAlarm devices

4098-9701, 4098-9714 photoelectric sensors.

4098-9716 and 4098-9717 ionization sensors.

4098-9731, 4098-9732, 4098-9733, 4098-9778, GSA4098-9733 and JTY-ZOM-CN 4098-9733 combination fixed-temperature and rate-of-rise heat sensors. 4098-9789, 4098-9775, GSA4098-9789 and 4098-9792, CN 4098-9792, 4098-9776, GSA4098-9792 sensor bases, 4098-9782 and 9794 sensor base (with sounder), 4098-9783 and 4098-9791 sensor bases (with relay drive), 4098-9785 and 4098-9789 sensor base (with LED drive). 4098-9804 relay module, 4098-9754, CN 4098-9754 photo/heat sensor with (GSA)4098-9795 and 4098-9796 sensor bases, 4098-9772 (520Hz), 4098-9773 (520Hz) Sounder Bases, 2098-9737 relay module, 4098-9706, 4098-9707, 4098-9708, 4098-9709, 4098-9752, 4098-9753, 4098-9755 and 4098-9756 duct sensor housings, 4098-9750 and 4098-9751 in-duct sensor assemblies, 4098-9806 remote LED w/test switch, 2098-9808 remote LED, and 2190-9169 and 2190-9170 isolator modules.

Optional Modules

IDNet optional Models

4100-3109, 4100-3110, 4100-3111, A100-3109, and A100-3110

IDNet compatible Devices

4099-9001 through 4099-9006, 4099-9010, 4099-9011, 4099-9012, 4099-9013, 4099-9014, 4099-9015, 4099-9020 4099-9021 pull stations, 4090-9001 4090-9051, CN4090-9001 supervised individually addressable modules, 4090-9118 Relay IAM with Unsupervised Feedback, 4090-9120 Six Point I/O IAM, 4090-9002 relay IAM, , 4090-9007, 4090-9008 Dual Relay IAM, 4090-9010 8 Amp Relay IAM, CN4090-9007 signal IAM.



IDNet compatible Devices (cont)	4090-9116* addressable IDNet isolator, 4090-9117 addressable power isolator, 4090-9121 security IAM, and 4090-9101 and CN4090-9101 Class B and 4090-9106 Class A zone adapter modules.
Building Zone and Relay Card	4100-5013 or 4010-9916, [executive/configuration] software 4.01 configuration programmer software 3.06.
Series 2120 Proprietary receiving unit assemblies	4100-5153, 4100-5154, 4100-5155 power supplies, 4100-6039 modem bridge, 4100-6041 DC powered FSK modem, 4100-6042 repeater, 4100-6043 and 4100-6044 communication converter card, 4100-6054 fiber optic line driver, 4100-6058 [old NFPA 72 designations: Style 7] Class X interface, and 4100-6059 decoder module.
Zone, MAPNET, IDNet 2 wire compatible detectors and bases	4098-9401, 4098-9402, 4098-9403, and 4098-9404 detectors, Models 4098-9407, 4098-9408, 4098-9409, 4098-9410 detectors with 2098-9211 base, Models (GSA)4098-9601(TSP), 4098-9602(TSP), 4098-9603C, and 4098-9605(TSP) detectors with 4098-9788(E) and 4098-9683(E) bases, Models (GSA)4098-9612(E), 4098-9613(E), 4098-9614(E), and 4098-9615(E) detectors with 4098-9788(E), 4098-9683(E), and 4098-9684(E) bases, and Model 4098-9685 duct detector housing with (GSA)4098-9601, JTY-GF-CN 4098-9601 smoke detector. The 4100-5005 and 4100-5015 are also compatible with the Model 4098-9688 duct detector housing with (GSA)4098-9601, JTY-GF-CN 4098-9601 smoke detector.
"XA" loop interface card	4100-3115
BMUX communication module	4100-6065



TFX Audio Interface Module

4100-1340

TFX Phone Card

4100-1297 and 4100-1298

TFX voltage regulator

4100-5130

TFX Loop Card

4100-6066

Standby batteries from 6.2 to 50 AH are available to provide 24 hour emergency power. Up to 125 AH of emergency battery power can be provided by utilizing the Models 4081-9306 or 4081-9308 expansion battery chargers

. Flexible User Interface [FUI or InfoAlarm] consists of a large LCD display, 566-692 CPU card with expanded memory, and [41] associated FUI assemblies marked with ! symbol in above text next to each model number.

See also AUTOMATIC RELEASES FOR PREACTION AND DELUGE SPRINKLER SYSTEMS; See also CENTRAL STATION AND REMOTE STATION SIGNALING.

PID/MODEL NO.	DESCRIPTION	Heat**	Bases
4098-9764	High Performance Photo Sensor	Y	Note 1
A4098-9764	High Performance Photo Sensor	Y	Note 1
4098-9764BA	High Performance Photo Sensor	Y	Note 1
A4098-9764BA	High Performance Photo Sensor	Y	Note 1
4098-9764BK	High Performance Photo Sensor	Y	Note 1



A4098-9764BK	High Performance Photo Sensor	Y	Note 1
4098-9764EA	High Performance Photo Sensor	Y	Note 1
**fixed temperature 135°F (57°C) Note 1: 4098-9775, 4098-9776, 4098-9780, 4098-9792, 4098-9789, 4098-9791, 4098-9772, 4098-9794, 4098-9770, 4098-9771, 4098-9773, 4098-9777, 4098-9793. All 2098-9XXX, 2190-9XXX and 4602-9XXX Model Nos. may be followed by a "C."			
*IDNet Isolator module/base part numbers:			
4090-9122	Addressable IDNET Isolator 2 module for in wall-mounting [requires 4" square box]		
4098-9766	Smoke Detector IDNET Isolator2 Base, Black		
4098-9767**	Smoke Detector IDNET Isolator2 Base, White		
**4098-9767 may be followed by BA (BUILD AMERICA), or E [White, ENHANCED]			



The Connected Services Gateway Module (CSGM) 4100-2500 and 4100-2501 [Simple Power Over Ethernet Switch (SPES)] include: IP DACT with a dual phone line interface, RJ45 10/100 Base-Tx Ethernet interface, cellular interface for connection to a central station.

DACT supports –

ADEMCO Contact ID,

DSC Fiber protocol (cellular or Ethernet).

The CSGM with the IP links can also connect to the panel as a remote service monitor interface [similarly to currently listed TrueInsight Remote Gateway].

The CSGM mounts inside the panel.

The gateway can be mounted remotely and powered through the SPES, mounted in the panel (using the same space the CSGM occupied).

Ethernet connection up to 100m away. This connection supports Class B only.

When the CGSM is remote mounted, it must use the CSGM external enclosure (3 colors)

CSGM External Enclosure, Red	Part number 2975-9234
CSGM External Enclosure, Platinum	Part number 2975-9235
CSGM External Enclosure, Beige	Part number 2975-9236
4100-6400	CSGM with Verizon Cellular Carrier, LTE
4100-6401	CSGM with AT & T Cellular Carrier, 3G W/2G Fallback
4100-6402	Verizon Cellular Carrier, LTE option, for the External Enclosure
4100-6403	AT & T Cellular Carrier, 3G W/2G Fallback option, for the External Enclosure
4100-6105	IP Communication Module is the CSGM with alternate software



4100-6107

IP Communication Module is the CSGM with alternate software, vertical mounted

AT&T LTE 4G (AT&T Gateway module firmware: 1.1.x.xxxx)

4100-6416

AT&T 4G/LTE Cellular module kit for IP Communicator/Connected Service Gateway modules mounted in the 4100ES FACU.

4100-6417

AT&T 4G/LTE Cellular module kit for IP Communicator/Connected Service Gateway modules mounted in the external mounted enclosure, for External Enclosure in the 4100ES FACU.

4100-2502

Connected services Gateway Module. Same as 4100-2500 but with alternative vertical mounting in the 4100ES FACP.

4100-2504

IP Communicator and Connected Services Gateway Module mounted in the 4100ES FACP.

4100-
2506

Same as 4100-2504 IP Communicator and Connected Services Gateway Module, with alternative vertical mounting, mounted in the 4100ES FACP.

ES Net is the next generation networking solution for Simplex fire alarm control panels. ES Net is a networking platform similar to the 4120 Network. ES Net supports: max. 99 ES Net nodes Communication speeds: max. 100Mbit/sec. ES Net communication cards with optional media modules:

4100-6306

ES Net Dual Channel Ethernet Media Card



4100-6307	ES Net Dual Channel DSL Media Card
4100-6308	ES Net Dual Channel Single-Mode Fiber Media Card
4100-6309	ES Net Dual Channel Single-Mode Fiber Media Card
4100-6310	ES Net Network Interface Card - FLAT Type
4100-6320	ES Net Network Bridge – FLAT Type
4100-6104	ES Network Interface Card - SLOT Type
4100-9834	ES Network Flat NIC Vertical Mounting Bracket
Panel PIDs with ES NET NDU option added from the factory:	
4100-9157	ES Net Network Display Unit w/2x40 - Domestic
4100-9158	ES Net Network Display Unit w/2x40 & Voice-Domestic
4100-9159	ES Net Network Display Unit w/2x40 - Canadian English
4100-9160	ES Net Network Display Unit w/2x40 - Canadian French



4100-9161	ES Net Network Display Unit w/2x40 & Voice - Canadian English
4100-6162	ES Net Network Display Unit w/2x40 & Voice - Canadian French
4100-9163	ES Net Network Display Unit w/FUI - Domestic
4100-9164	ES Net Network Display Unit w/FUI - Canadian English
4100-9165	ES Net Network Display Unit w/FUI - Canadian French
4100-9252	ES Net Network Display Unit w/FUI - International 220/240V
4100-9253	ES Net Network Display Unit w/FUI - International 120V
4100-9168	ES Net Network Display Unit w/FUI & Voice - Domestic
4100-9169	ES Net Network Display Unit w/FUI & Voice - Canadian English
4100-9170	ES Net Network Display Unit w/FUI & Voice - Canadian French
4100-9248	ES Net Network Display Unit w/FUI & Voice - International 220/240 VAC



4100-9249

ES Net Network Display Unit w/FUI & Voice -
International 120 VAC

4100-9357

ES Net Network Display Unit w/2x40 & Voice &
EPS Domestic

4100-9358

ES Net Network Display Unit w/FUI & Voice &
EPS - Domestic

4100-9359

ES Net Network Display Unit w/FUI & Voice &
EPS - Canadian English

4100-9250

ES Net Network Display Unit w/2x40 -
International 220/240V

4100-9251

ES Net Network Display Unit w/2x40 & Voice -
International 220/240V

4100-9545

ES Net Network Display Unit w/2x40 & Voice &
EPS - International 220/240V

The ES-PS, ES-XPS Power Supplies replace the previous FM Approved 4100 series power supply. The power supplies functions are separated from the detection and notification circuit drivers so that it can be configured for different applications. ES utilizes a universal input switcher to eliminate voltage specific configurations. The ES-XPS is a depopulated version of the ES-PS

ES PS Master Controller Part Numbers

4100-5401

ES Power Supply Only

4100-5402

ES-XPS Expansion Supply

4100-5403

Backup harness for the ES-PS. No supply.



4100-9701	ES-Power Supply Master Controller CPU with 2x40 display - English
4100-9702	ES-PS Master Controller CPU with 2x40 display- Canadian French
4100-9703	ES-PS Master Controller CPU with InfoAlarm display -English, Raised Keys
4100-9704	ES-PS Master Controller CPU with InfoAlarm display- Canadian French
4100-9705	ES-PS Master Controller CPU with InfoAlarm display - English, Flat Keys
4100-9709	ES-PS Master Controller CPU without display
4100-5450	NAC Card
4100-5451	IDNAC Card
4100-9706	ES-PS Master Controller w/ Touch Screen Display
4100-9720	4120 Network Card, with ES-PS,CPU,2x40 Display – English
4100-9721	4120 Network Card, with ES-PS,CPU, 2x40 Display - Canadian French



4100-9722

4120 Network Card, with ES-PS,CPU, InfoAlarm Display with Raised Keys, InfoAlarm Memory Expansion Card, English

4100-9723

4120 Network Card, with ES-PS,CPU, InfoAlarm Display with Raised Keys, InfoAlarm Memory Expansion Card, Canadian French

4100-9724

4120 Network Card, with ES-PS, CPU, InfoAlarm Display with Flat Keys, InfoAlarm Memory Expansion Card, English

4100-9730

4120 Network Cardx2, with ES-PSx2, CPUx2, Voice, 2x40 Display,(2 Bays)- English

4100-9731

4120 Network Cardx2, with ES-PSx2, CPUx2, Voice, 2x40 Display,(2 Bays)- Canadian French

4100-9732

4120 Network Cardx2, with ES-PSx2, CPUx2,Voice, InfoAlarm Display with Raised Keys, InfoAlarm Memory Expansion Card, (2 Bay), English

4100-9733

4120 Network Cardx2, with ES-PSx2, CPUx2,Voice, InfoAlarm Display with Raised Keys, InfoAlarm Memory Expansion Card, (2 Bay),Canadian French

4100-9734

4120 Network Cardx2, with ES-PSx2, CPUx2, Voice, InfoAlarm Display with Flat Keys, (2 Bays), English

ES PS 4120 Network Part Numbers



4100-9720	4120 Network Card, with ES-PS,CPU,2x40 Display – English
4100-9721	4120 Network Card, with ES-PS,CPU, 2x40 Display - Canadian French
4100-9722	4120 Network Card, with ES-PS,CPU, InfoAlarm Display with Raised Keys, InfoAlarm Memory Expansion Card, English
4100-9723	4120 Network Card, with ES-PS,CPU, InfoAlarm Display with Raised Keys, InfoAlarm Memory Expansion Card, Canadian French
4100-9724	4120 Network Card, with ES-PS, CPU, InfoAlarm Display with Flat Keys, InfoAlarm Memory Expansion Card, English
4100-9730	4120 Network Cardx2, with ES-PSx2, CPUx2, Voice, 2x40 Display,(2 Bays)- English
4100-9731	4120 Network Cardx2, with ES-PSx2, CPUx2, Voice, 2x40 Display,(2 Bays)- Canadian French
4100-9732	4120 Network Cardx2, with ES-PSx2, CPUx2,Voice, InfoAlarm Display with Raised Keys, InfoAlarm Memory Expansion Card, (2 Bay), English
4100-9733	4120 Network Cardx2, with ES-PSx2, CPUx2,Voice, InfoAlarm Display with Raised Keys, InfoAlarm Memory Expansion Card, (2 Bay),Canadian French



4100-9734

4120 Network Cardx2, with ES-PSx2, CPUx2, Voice, InfoAlarm Display with Flat Keys, (2 Bays), English

ES PS ES Network Part Numbers

4100-9750

ES-PS, 2x40 Display, CPU, ES Network Interface Card, English

4100-9751

ES-PS, 2x40 Display, CPU, ES Network Interface Card, Canadian French

4100-9752

ES-PS, InfoAlarm Display with Raised Keys, CPU, ES Network Interface Card, Info Alarm Memory Expansion Card, English

4100-9753

ES-PS, InfoAlarm Display with Raised Keys, CPU, ES Network Interface Card, Info Alarm Memory Expansion Card, Canadian French

4100-9754

ES-PS, Infoalarm Display w/Flat Keys, CPU Card, ES Network Inteface Card, Infoalarm Memory Expansion Card, English

4100-9760

ES-PSx2, 2x40 Display, CPUx2, ES Network Interface Cardx2, Voice, (2 Bays), English

4100-9761

ES-PSx2, Display, CPUx2, ES Network Interface Cardx2,Voice,(2 Bays), Canadian French.



4100-9762

ES-PSx2, InfoAlarm Display with Raised Keys, CPUx2, ES Network Interface Cardx2, InfoAlarm Memory Expansion Card, Voice, (2 Bays),English

4100-9763

ES-PSx2, InfoAlarm Display with Raised Keys, CPUx2, ES Network Interface Cardx2, InfoAlarm Memory Expansion Card, Voice, (2 Bays),Canadian French

4100-9764

ES-PSx2, InfoAlarm Display with Flat Keys, CPUx2, ES Network Interface Cardx2, InfoAlarm Memory Expansion Card (2 Bays), English

ES PS Miscellaneous New Part Numbers

4100-7161

SPS to ES-PS Upgrade Kit

4100-5131

4100U ES-PS Fan Module

4100-0644

120V ES-PS PDM Harness

4100-0645

220V ES-PS PDM Harness

4100-0646

230V ES-PS PDM Harness

4100-0647

240V ES-PS PDM Harness

The 4120 Fiber Modem Transceiver is a small board that mounts on top of the main Fiber Modem PCA to convert an electrical signal to an optical signal and vice versa. A newly designed Transceiver board with the following new part numbers are being listed as a replacement.



4120 Network fiber modems for internal mounting in FACUs

4100-6120

Single-Mode, Left-Port Fiber Modem Assembly,
Use for direct mounting onto a 4100ES/4100U
expansion bay.

4100-6122

Multi-Mode, Left-Port Fiber Modem Assembly,
Use for direct mounting onto a 4100ES/4100U
expansion bay.

4100-6121

Single-Mode, Right-Port Fiber Modem
Assembly, Use for direct mounting onto a
4100ES/4100U expansion bay.

4100-6123

Multi-Mode, Right-Port Fiber Modem Assembly,
Use for direct mounting onto a 4100ES/4100U
expansion bay.

4120 Expansion cabinet and related modem assemblies for remote mounting

4190-9035

Single-Mode, Red, Expansion Cabinet with Left-
Port Fiber Modem Assembly, Cabinets mount
externally to compatible panels where internal
mounting space is not available. Typical
applications are for expansion to 4100ES,
4010ES, or 4007ES.

4190-9038

Multi-Mode, Red, Expansion Cabinet with Left-
Port Fiber Modem Assembly, Cabinets mount
externally to compatible panels where internal
mounting space is not available. Typical
applications are for expansion to 4100ES,
4010ES, or 4007ES.



4190-9036

Single-Mode, Beige, Expansion Cabinet with Left-Port Fiber Modem Assembly, Cabinets mount externally to compatible panels where internal mounting space is not available. Typical applications are for expansion to 4100ES, 4010ES, or 4007ES.

4190-9039

Multi-Mode, Beige, Expansion Cabinet with Left-Port Fiber Modem Assembly, Cabinets mount externally to compatible panels where internal mounting space is not available. Typical applications are for expansion to 4100ES, 4010ES, or 4007ES.

4190-9037

Single-Mode, Fiber Optic Modem Right-Port Assembly (For Expansion Cabinet Only}, Expansion Cabinet Only

4190-9040

Multi-Mode, Fiber Optic Modem Right-Port Assembly (For Expansion Cabinet Only}, Expansion Cabinet Only

Emergency Voice / Alarm Communications Systems, Fire

Audio over ES NET (New ES NET Digital Auto Controller) Card Includes the Following:

4100-1411

ES Net eight-channel digital controller board only

4100-1412

ES Net basic audio with microphone. Includes the 4100-1411 digital controller board, microphone module, an Ethernet cable, and an audio expansion bay kit.

Series 4100U/ES Audio Control Panel. Uses revision 6.04 operating program. The 4100U/ES audio control panel consists of a selection of the assemblies and modules used in conjunction with the 4100U/ES controls and a selection of the following equipment:



4100-9620	analog audio controller assembly
4100-1210	audio controller board
4100-1243	microphone panel
4100-9621	digital audio controller assembly
4100-1211	audio controller board
4100-1311	audio controller board
4100-0621	analog audio riser module
4100-0622	digital audio riser module
4100-1341	Multiple Command Center digital audio riser module
4100-1212, 4100-1312	analog 50 watt, 25 Vrms amplifier
4100-1213, 4100-1313	analog 50 watt, 70 Vrms amplifier
4100-1214, 4100-1216, 4100-1220, 4100-1222, 4100-1314, 4100-1316, 4100-1322	analog 100 watt, 25 Vrms amplifier with power supply (120 Vac)
4100-1218, 4100-1224, 4100-1318, 4100-1324	analog 100 watt, 25 Vrms amplifier with power supply (220/240 Vac)



4100-1215, 4100-1217, 4100-1221, 4100-1223, 4100-1315, 4100-1317, 4100-1321, 4100-1323	analog 100 watt, 70 Vrms amplifier with power supply (120 Vac)
4100-1219, 4100-1225, 4100-1319, 4100-1325	analog 100 watt, 70 Vrms amplifier with power supply (220/240 Vac)
4100-1226, 4100-1326	digital 50 watt, 25 Vrms amplifier
4100-1227, 4100-1327	digital 50 watt, 70 Vrms amplifier
4100-1228, 4100-1230, 4100-1234, 4100-1236, 4100-1328, 4100-1330, 4100-1334, 4100-1336	digital 100 watt, 25 Vrms amplifier with power supply (120 Vac)
4100-1232, 4100-1238, 4100-1332, 4100-1338	digital 100 watt, 25 Vrms amplifier with power supply (220/240 Vac)
4100-1229, 4100-1231, 4100-1235, 4100-1237	digital 100 watt, 70 Vrms amplifier with power supply (120 Vac),
4100-1233, 4100-1239, 4100-1333, 4100-1339	digital 100 watt, 70 Vrms amplifier with power supply (220/240 Vac)
4100-1240	auxiliary audio input board
4100-1241, 4100-1242	message expansion board
4100-1244	remote microphone module



4100-1274	microphone multiplex module
4100-1245	expansion NAC board for use with 35 and 50 watt amplifiers
4100-1246	class A adapter for use with 35 and 50 watt amplifiers
4100-1248	expansion NAC board for use with 100 watt amplifiers
4100-1252, 4100-1253, 4100-1254, 4100-1255	audio operator interface modules
4100-1259	constant supervision NAC board for use with 25 Vrms
4100-13XX	amplifiers
4100-1260	constant supervision NAC board for use with 70 Vrms, 4100-13XX amplifiers
4100-1261, 4100-1361	analog 35 watt, 25 Vrms amplifier
4100-1262, 4100-1362	analog 35 watt, 70 Vrms amplifier
4100-1263, 4100-1363	digital 35 watt, 25 Vrms amplifier
4100-1264, 4100-1364	digital 35 watt, 70 Vrms amplifier
4100-1265	Degraded Fail-Safe Microphone master module



4100-1269	Degraded Fail-Safe Microphone slave module
4100-1268	constant supervision NAC board
4100-5116	expansion signal card
4100-1270	master telephone
4100-1272	Phone card
4100-1271	remote master telephone
4100-1273	Telephone class A adapter. Use as a replacement for the 2120 control when equipped with a BMUX communication module 4100-6065.
4902-9716, 4902-9717, 4100-9721	White Speakers
4902-9722	Red Speakers
4903-9350, 4903-9351, 4903-9352, 4903-9353, 4903-9354, 4903-9355, 4903-9356, 4903-9357, 4903-9358, 4903-9359, 4903-9360, 4903-9361, 4903-9151, 4903-9154	White Speaker/Strobes
Annunciator LED Switch controller cards	
Model	Description



4100-1450

Local LED/Switch controller card

4602-1451

Remote LED/Switch controller card

Annunciator Modules

Model

Description

4602-1457

Vertical remote command unit module

4100-1458

8 rotary switch HOA module

4100-1459

8 red-green-yellow (RGY) LED module

4100-1460

16 RGY LED module

4100-1461

8 button and 8 RGY LED module

4100-1462

8 button and 16 RGY LED module

4100-1463

16 button and 16 RGY LED module

4100-1464

8 red-green-blue (RGB) LED module

Annunciator Enclosures

Model

Description



4602-1453	Two slot alterable, wall mount - Red
4602-1471	Two slot alterable, flush mount - Red
4602-1454	Four slot alterable, wall mount - Red
4602-1472	Four slot alterable, flush mount - Red
4602-1455	Five slot door, color LCD, wall mount - Red
4602-1473	Five slot door, color LCD, flush mount - Red
4602-1456	Five slot door, 2x40 LCD module, wall mount - Red
4602-1474	Five slot door, 2x40 LCD module, flush mount - Red
4602-1475	ES Annunciator blank plate, five slot door - Black
4602-1476	ES Annunciator blank plate, LED module - Black
4602-1479	Two slot alterable, wall mount - Platinum
4602-1484	Two slot alterable, flush mount - Platinum
4602-1480	Four slot alterable, wall mount - Platinum
4602-1485	Four slot alterable, flush mount - Platinum



4602-1481		Five slot door, color LCD, wall mount - Platinum
4602-1486		Five slot door, color LCD, flush mount - Platinum
4602-1482		Five slot door, 2x40 LCD module, wall mount - Platinum
4602-1487		Five slot door, 2x40 LCD module, flush mount - Platinum
2975-9237		Cabinet back box - Red
2975-9238		Cabinet back box - Red
Non-Configurable Annunciator		
Model	Color	Description
4602-1452	Red	Two slot non-configurable wall mount
4602-1478	Platinum	
4602-1470	Red	Two slot non-configurable flush mount
4602-1483	Platinum	
Remote Station Signaling Systems, Fire		



4100U/ES Series control equipped with digital alarm communicator transmitter 4100-6052 with software version 2.01 or 4100-6067 with software version 1.04 at the protected premises transmitting signals to two or more Approved versions of the Silent Knight Model 9000, Bosch Model 6500, FBI Model CP-220FB or Ademco Model 685 digital alarm communicator receivers (DACR) in the central station via a signaling channel established through the public switched telephone network. One back-up receiver, switchable within 30 seconds, is required for up to five on-line receivers. Equipment suitable for operation in ambient temperatures from 32° to 120°F (0° to 49°C). The DACT and DACR must be provided with a minimum of 60 hours of standby power.

Proprietary Signaling Systems, Fire

4100U/ES Series control using version 6.04 operating program. Simplex Model 4190-9001 or 4100-1293 and 4190-9027 panel-mounted printer used for permanent recording of signals. Use as a replacement for the TFX system with the addition of the TFX Audio Interface Module 4100-1340, TFX Phone Card 4100-1297 and 4100-1298, TFX voltage regulator 4100-5130 and the TFX Loop Card 4100-6066. Use as a replacement for the 2120 control when equipped with a BMUX communication module 4100-6065 to connect to the 2120-0121 communication line repeater extends this length by an additional 10,000ft (3050 m). Optional system equipment includes 2120-0122 RS232C to dc converter, 2120-0229 dc to RS232C converter, 2190-9133, 2120-0129 FSK modems, 2120-0243 modem bridge, SCC status command center, 2120-0320 SCC expansion module, 2190-9011, 2190-9038, 2190-9039, 4190-9001 printers, 2120-8401 desk top SCC, 2190-9000 video monitor, -9005, 4190-9006 CRT/keyboard, 2190-9031 CRT. Standby batteries from 6.2 to 50 AH are available to provide 24 hour emergency power.

Central Station Signaling Systems, Fire

4100U/ES Series control equipped with digital alarm communicator transmitter 4100-6052 or 4100-6080 with software version 2.01 or 4100-6067 with software version 1.04 at the protected premises transmitting signals to two or more Approved versions of the Silent Knight Model 9000, Bosch Model 6500, FBI Model CP-220FB or Ademco Model 685 digital alarm communicator receivers (DACR) in the central station via a signaling channel established through the public switched telephone network. One back-up receiver, switchable within 30 seconds, is required for up to five on-line receivers. Equipment suitable for operation in ambient temperatures from 32° to 120°F (0° to 49°C). The DACT must be provided with a minimum of 24 hours of standby power.

Automatic Releases, Preaction and Deluge Sprinkler Systems



4100U/ES Addressable Control System. Programmable control panel with Software Revision Level 6.04. IDNet signaling line circuits must be configured for [old NFPA 72 designation: Class A, Style 6] Class A wiring for this application. Models 4090-9005 and 4090-9006 Suppression Release Peripherals with Software Rev. 1.01 connect to the notification appliance circuit from the 4100U/ES fire alarm control panel. These peripherals monitor the output releasing appliance circuit wiring for opens and shorts. Each releasing appliance circuit must connect to a 2081-9046 coil supervision module which in turn is connected to a compatible 24 V dc solenoid. For FM Approved combinations of solenoid and water control valves, refer to the Automatic Water Control Valve listings that follow. 24 V dc batteries rated up to 125 AH are available to provide 90 hours of emergency operation.

Details

Category	Local Protective Signaling, Fire
Class of Work	3010 - Fire Alarm Systems
Certification Type	FM Approved
Release Control Panel Grouping (For use with Solenoid Valves)	Group 3 - Rated 22W and below
Certificate Number	FM23FPUS0122-5
Listing Country	United States of America



Detection, Fire Alarm and Signaling Equipment | Fire Alarm Control Panels | **Local Protective Signaling, Fire**

Fire Alarm Control 4008

Product Description

Fire Alarm Control 4008-9101 (red), -9102 (beige) and 4008-9121. Addressable programmable control panels using revision 1.02 operating software. The 4008-9101, -9102 is intended for sale in the USA only. The 4008-9121, -9122 includes a front panel LED display to meet Canadian display requirements and is intended for sale in Canada and USA. Both models are provided with an addressable device signaling line circuit (SLC) that can be configured for (Class B) Style 4 or (Class A) Style 6 wiring. Each control is provided with 2 (Class A or Class B) Style Y or Z configurable notification appliance circuits rated 2 Amps per circuit or 3 Amps for both circuits. Each control is also provided with an auxiliary power circuit rated 500 mA that can be wired as either continuous or reset-able. The controls have 2 Form A or B (selectable) relay contact circuits rated 2A @ 30 V dc. The controls are each equipped with integral digital alarm control transmitters (DACT) for providing central station and remote station off-premise signaling. Optional remote Zone LED module with 10 red and 14 yellow LED indicators may be connected to the 4008-9101, -9102 control's serial communication circuit. Other optional modules for use with the controls are as follows: Model 4008-9802 Relay Module, Model 4810-9111 Remote LED/Switch Annunciator, and Model 4008-9801 Expansion Power Supply. The compatible addressable devices consist of the following: Model 4098-9714, A4098-9714, 4098-9774, A4098-9774, GSA4098-9714, A4098-9714BA and CN 4098-9714, A4098-9714 photoelectric smoke sensors; Model 4098-9754, 4098-9779, GSA4098-9754 photoelectric smoke sensor with integral heat sensor; Model 4098-9733, 4098-9778, GSA4098-9733, CN4098-9733, 4098-9734 and GSA4098-9734 heat sensor heads with bases: 4098-9780, GSA4098-9780, 4098-9789, 4098-9775, GSA4098-9789, 4098 -9791, 4098-9792, 4098-9776, GSA4098-9792, CN4098-9792, 4098-9793, 4098-9777, GSA4098-9793, 4098-9794, GSA4098-9794, 4098-9795, GSA4098-9795, 4098-9796, GSA4098-9796, 4098-9770, 4098-9771, Models 4098-9733E, 4098-9734E sensor heads with bases 4098-9780E, 4098-9789E, 4098-9791E, 4098-9792E, 4098-9793E, 4098-9794E; Models 4098-9755, -9755C, -9756 and -9756C duct type sensor housings with optional 2098-9806 remote LED w/test switch, or 2098-9808 remote LED. In addition, the following IDNet devices are compatible with the addressable signaling line: 4099-9001 through -9006, -9010 through -9015, -9020 and -9021 pull stations; individually addressable modules (IAM) 4090-9001 Monitor IAM, 4090-9002 relay IAM, 4090-9116 addressable IDNet isolator, 4090-9007 Signal IAM, and 4090-9101 and 4090-9106 initiating modules which are compatible with 2-wire smoke detectors: 4098-9601, -9602 and -9605; and 2-wire heat detectors: 4098-9612, -9613, -9614, -9615 with base models: 4098-9788 and -9683. The heat detectors may also be used with base model: 4098-9684. For auxiliary signaling and remote station signaling, the 4006-9805 and -9806 City Circuit Modules connect to local energy masterbox or provide reverse polarity type service. Universal AC input is rated 100 to 264 V ac at 50/60 Hz. Two 12 V dc batteries sized 7-18 AH are available to provide 24 hours of emergency operation. Batteries sized 7-18 AH are available to provide 24 hours of emergency operation. Batteries larger than 12.7 AH must be located in a 4009-9801 External Cabinet. See CENTRAL STATION and REMOTE STATION SIGNALING.

Details

Category	Local Protective Signaling, Fire
Class of Work	3010 - Fire Alarm Systems
Certification Type	FM Approved

Company

Simplex Time Recorder LLC
6 Technology Park Drive,
Westford , Massachusetts 01886
United States of America
<http://simplexgrinnell.com>

 Approvals

Listing Country

United States of America

Detection, Fire Alarm and Signaling Equipment | Fire Alarm Control Panels | **Local Protective Signaling, Fire**

Fire Alarm Control 4008

Product Description

Fire Alarm Control 4008-9101 (red), -9102 (beige) and 4008-9121. Addressable programmable control panels using revision 1.02 operating software. The 4008-9101, -9102 is intended for sale in the USA only. The 4008-9121, -9122 includes a front panel LED display to meet Canadian display requirements and is intended for sale in Canada and USA. Both models are provided with an addressable device signaling line circuit (SLC) that can be configured for (Class B) Style 4 or (Class A) Style 6 wiring. Each control is provided with 2 (Class A or Class B) Style Y or Z configurable notification appliance circuits rated 2 Amps per circuit or 3 Amps for both circuits. Each control is also provided with an auxiliary power circuit rated 500 mA that can be wired as either continuous or reset-able. The controls have 2 Form A or B (selectable) relay contact circuits rated 2A @ 30 V dc. The controls are each equipped with integral digital alarm control transmitters (DACT) for providing central station and remote station off-premise signaling. Optional remote Zone LED module with 10 red and 14 yellow LED indicators may be connected to the 4008-9101, -9102 control's serial communication circuit. Other optional modules for use with the controls are as follows: Model 4008-9802 Relay Module, Model 4810-9111 Remote LED/Switch Annunciator, and Model 4008-9801 Expansion Power Supply. The compatible addressable devices consist of the following: Model 4098-9714, A4098-9714, 4098-9774, A4098-9774, GSA4098-9714, A4098-9714BA and CN 4098-9714, A4098-9714 photoelectric smoke sensors; Model 4098-9754, 4098-9779, GSA4098-9754 photoelectric smoke sensor with integral heat sensor; Model 4098-9733, 4098-9778, GSA4098-9733, CN4098-9733, 4098-9734 and GSA4098-9734 heat sensor heads with bases: 4098-9780, GSA4098-9780, 4098-9789, 4098-9775, GSA4098-9789, 4098 -9791, 4098-9792, 4098-9776, GSA4098-9792, CN4098-9792, 4098-9793, 4098-9777, GSA4098-9793, 4098-9794, GSA4098-9794, 4098-9795, GSA4098-9795, 4098-9796, GSA4098-9796, 4098-9770, 4098-9771, Models 4098-9733E, 4098-9734E sensor heads with bases 4098-9780E, 4098-9789E, 4098-9791E, 4098-9792E, 4098-9793E, 4098-9794E; Models 4098-9755, -9755C, -9756 and -9756C duct type sensor housings with optional 2098-9806 remote LED w/test switch, or 2098-9808 remote LED. In addition, the following IDNet devices are compatible with the addressable signaling line: 4099-9001 through -9006, -9010 through -9015, -9020 and -9021 pull stations; individually addressable modules (IAM) 4090-9001 Monitor IAM, 4090-9002 relay IAM, 4090-9116 addressable IDNet isolator, 4090-9007 Signal IAM, and 4090-9101 and 4090-9106 initiating modules which are compatible with 2-wire smoke detectors: 4098-9601, -9602 and -9605; and 2-wire heat detectors: 4098-9612, -9613, -9614, -9615 with base models: 4098-9788 and -9683. The heat detectors may also be used with base model: 4098-9684. For auxiliary signaling and remote station signaling, the 4006-9805 and -9806 City Circuit Modules connect to local energy masterbox or provide reverse polarity type service. Universal AC input is rated 100 to 264 V ac at 50/60 Hz. Two 12 V dc batteries sized 7-18 AH are available to provide 24 hours of emergency operation. Batteries sized 7-18 AH are available to provide 24 hours of emergency operation. Batteries larger than 12.7 AH must be located in a 4009-9801 External Cabinet. See CENTRAL STATION and REMOTE STATION SIGNALING.

Details

Category	Local Protective Signaling, Fire
Class of Work	3010 - Fire Alarm Systems
Certification Type	FM Approved

Company

Simplex Time Recorder LLC
 6 Technology Park Drive,
 Westford , Massachusetts 01886
 United States of America
<http://simplexgrinnell.com>

 Approvals

Listing Country

United States of America



Detection, Fire Alarm and Signaling Equipment | Notification Appliances | **Notification Appliances**

Models 4906-9105, -9106, -9131, -9132, -9113,-9143

Product Description

TrueAlert® series 4906 strobes and horn/strobe combinations. Models 4906-9105, -9106, -9131, -9132, -9113 and -9143 for wall installations. The following appliances are strobes only (V/O): 4906-9113 (red housing), 4906-9106 (white housing) and 4906-9105 (red housing). The following appliances are horn/strobe combinations (A/V): 4906-9143 (red housing) , 4906-9132 (white housing) and 4906-9131 (red housing). Used in 24 volt DC fire alarm systems. Model 4905-9938 module used for synchronization and tone selection (steady, Temporal or March Time). All units utilize multicandela strobe slide switch for candela selections: Canadian models (4906-9113; -9143) have 5, 20 and 30 candela selection switch. The US models (Models 4906-9105, -9106, -9131 and -9132) have 15, 60, 75 and WP75 candela selection. Strobes and horn/strobe combinations come in two wire settings only. All the appliances are NEMA 3R rated for outdoor use if utilized with either model 4905-9828 (red housing) or 4905-9829 (white housing) weatherproof back box. The weatherproof appliances use either model 4905-9832 (V/O) or model 4905-9833 (A/V) weatherproof escutcheon.

Details

Category	Notification Appliances
Class of Work	3150 - Audible Signal Appliances
Certification Type	FM Approved
Listing Country	United States of America

Company

Simplex Time Recorder LLC
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