# SIEMENS

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Submittal Date
5/15/2024

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Fire Alarm System Equipment,
Submittal for:
**MCC AUTOMOTIVE INSTITUTE**

**500 SW LONGVIEW RD.**
**LEE'S SUMMIT, MO 64081**

Job Number
44OP-379485

SIEMENS

8066 FLINT STREET
LENEXA, KS 66214
Phone: (913) 905-6700

**Building Technologies**
**Fire Safety**

PREPARED FOR:

## MCC AUTOMOTIVE INSTITUTE

500 SW LONGVIEW RD.
LEE'S SUMMIT, MO 64081

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| | | | | |
|---|---|---|---|---|
| 7 | CP2297 | Surge Suppressor | Insert | CP2297 |
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# FACP Accessories

## PAD-5 Addressable Power Supply Unit

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

## Architect & Engineer Specifications

- ☐ PAD-5 comes standard with a variable of four (4) `Class B', two (2) `Class A' output circuits, and is expandable, via Model PAD-5-CLSA, to four (4) additional `Class B', two (2) `Class A' output circuits
- ☐ Power supplies support notification-appliance circuit (NAC) power:
  - up to 6A used with Model FP2011-U1
  - up to 9A used with Model FP2012-U1
- ☐ Complete, real-time PAD-5 unit status at the main fire-alarm control panel
- ☐ 24VDC output voltage
  - 3A of auxiliary-output power
- ☐ Automatically recognized variable end-of-line (EOL) values
  - 2.2k – 24kΩ
- ☐ Multi-module mounting in a two-height-unit (2HU) enclosure
- ☐ Model PAD-5-CLSA allows optional releasing functionalities for:
  - pre-action
  - deluge
  - clean agent
- ☐ Built-in strobe synchronization:
  - supports coded audible signals, including Temporal 3 | T4 patterns
- ☐ `Form C' general `Trouble | AC Fail' monitoring contact
- ☐ Battery supervision and control
- ☐ Ground-fault detection
- ☐ Advanced microprocessor control
- ☐ Uses Flash memory-based system firmware
  - optional system-diagnostic and firmware-upgrade tool
- ☐ Americans with Disabilities Act (ADA) compliant
- ☐ UL 864 10th Edition | UL 1076 | UL 2017 | UL 2572 Listed
- ☐ ULC-S527 and ULC-S576-14

## Product Overview

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

Features include:

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

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

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

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

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

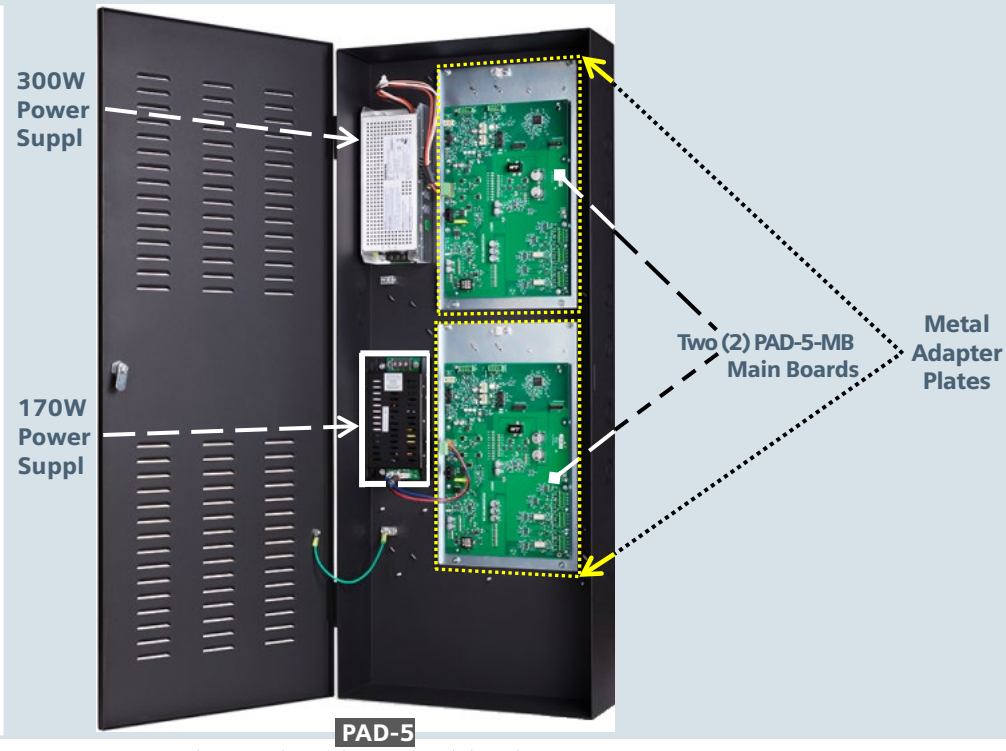
## Specifications

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

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

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

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




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

## Specifications – (continued)

Four (4) `Class B' or two (2) `Class A' NACs are standard:

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

Internal 6.5A or 9A power supply / battery charger:

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

PAD-5

**Typical 1HU enclosure configuration**

## PAD-5 Unit Components

**PAD-5-MB**

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

Model PAD-5 MB

**PAD-5-CLSA**

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

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

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

### PAD-5-CDC

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

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

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

### PAD-5 Enclosures

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

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

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

**PAB-ENCL**
1 HU Enclosure

**PAB2-ENCL**
2 HU Enclosure

### Power Supplies

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

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

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

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

## Status Indicator LEDs

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

## Configuration Options

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

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

## Technical Data

| | |
|---|---|
| **LINE IMPEDANCE:** | 3.2Ω, max per loop |
| **ALARM CURRENT:** [For NACs & aux. power] | 3.0A per circuit, max.<br>– 6A, max. [via FP2011-U1]<br>– 9A, max. [via FP2012-U1] |
| **TOTAL OUTPUT POWER:** | 24VDC @ 6A, [with the 170W power supply, Model FP2011-U1]<br>24VDC @ 9A, [with the 300W power supply, Model FP2012-U1] |
| **AMBIENT TEMPERATURE:** | +32° – +120°F (0° – +49°C) |
| **RELATIVE HUMIDITY:** | 0 – 93% @ 86°F (30°C); (non-condensing) |
| **AUXILIARY POWER CIRCUIT:** | Each circuit @ 3A, max. |
| **BATTERY CHARGING CAPACITY:** | up to 100AH |
| **OUTPUT CIRCUITS \| CONFIGURATIONS:** | Two (2) `Class A'<br>– up to four (4) `Class A' (via Model PAD-5-CLSA)<br>– Four (4) `Class B'<br>– One (1) `Class A', Two (2) `Class B' |
| **INSTALLATION ENVIRONMENT:** | Indoor \| Dry |
| **NACS:** | – Supervised, power-limited<br>▪ 10mA standby, max.<br>▪ 3A active Operating<br>▪ 0.3A Regulated<br>– four (4) circuits<br>– 2K ohms (+), 8K Ω (-) |

## Physical Properties

| | |
|---|---|
| **PAD-5 1HU-UNIT DIMENSIONS:** [ W -x- H -x- D ] | 16.0" –**x**– 24.0" –**x**– 3.50" (40.6 cm. -**x**- 60.9 cm. -**x**- 8.8 cm.) |
| **PAD-5 2HU-UNIT DIMENSIONS:** [ W -x- H -x- D ] | 16" –**x**– 40" –**x**– 5.5" (40.6 cm. -**x**- 101.6 cm. -**x**- 14 cm.) |
| **ENCLOSURE TYPES:** | **Black** or Red |

## Details for Ordering

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

## Details for Ordering – (cont.)

### PAD-5 1HU-only Kits

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

### PAD-5 Unit Accessories

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

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

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

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

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

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**February - 2023**
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SIEMENS

# Desigo® Fire Safety Modular System

## System-Status Display Series

## Model SSD, SSD-C and SSD-C-REM

### Architect & Engineer Specifications

- ☐ 4 rows - 40-character alphanumeric LCD screen, backlit upon status change or display toggling
- ☐ Audible and event-status light-emitting diodes (LEDs)
- ☐ Scroll buttons to view additional events
- ☐ Local sounder
- ☐ Supports 'Class B' or 'Class A' wiring
- ☐ Built-in transient protection
- ☐ Mounts in its own enclosure or REMBOX-series enclosure
- ☐ Optional local-system control
- ☐ Downloadable firmware
- ☐ UL864 & CAN / ULC-S576 Listed

### Product Overview

The System-Status Display (SSD Series) is a remote light-emitting diode (LED)/ liquid-crystal display (LCD) display unit that shows the local status of a Desigo Fire Safety Modular system. A LED will illuminate when Alarm | Supervisory | Trouble and Security events occur on the system. A (4) four-line LCD will give details of the event in alphanumeric form. The display can be toggled to display additional events. Optional remote-system-control capabilities are available.

### Specifications

The SSD Series display has separate LEDs for Alarm | Supervisory | Trouble and Security events on the Desigo Fire Safety Modular system. Each LED will flash when unacknowledged events of that type are present on the system. The LED will change to steady, upon acknowledgment of the event.

Also, there are two (2) LEDs that indicate the state of audible circuits on the system: one (1) LED to indicate that the circuits are active and one (1) LED to indicate the circuits have been silenced.

The LCD display on the Model SSD-series display has four (4) rows – 40 characters for each row. When the Desigo Fire Safety Modular system is in its normal supervisory state with no events present, the display will annunciate the system ID information, the date and the time of day.

When an event occurs on the system, the LCD display will show the event type and address, the time of the event, the custom message for that address, the usage of the device, and whether the event is `acknowledged' or not.

Additionally, the display will show the total number of all types of events present on the system. The display has a backlight feature that operates upon receiving any event information or when any operator buttons are pressed.

**Model SSD-C-REM**
**System-Status Display Series (with control for remote enclosures)**

**Model SSD-C**
**System-Status Display Series**

A local sounder is included with the Model SSD-series display that operates when any events are displayed on the system. The sounder can be optionally disabled through software programming. Pressing any operator buttons will silence the local sounder when an event is present.

The SSD Series display has two (2) display-control buttons that are used to display the next or the previous event information in the sequence, and a local sounder silence button. Programming for the SSD Series display is done with the Zeus-D programming tool.

## Specifications – (continued)

Models SSD-C and Model SSD-C-REM have three (3) additional control buttons for acknowledging events, silencing audible circuits, and resetting the system. Model SSD-C has an integral key switch that enables these control buttons to operate. Model SSD-C-REM is located within a locked cabinet, so no additional key switch is required for enabling the control buttons.

The SSD Series display is remotely connected to the H-Net communication bus from any Model NIC-C interface in a Desigo Fire Safety Modular system enclosure using Class B or Class A wiring. 24VDC is required to run the SSD Series display, and can be provided from a Model PSC-12 Power Supply or PSX-12 Power Supply Extender in the Desigo Fire Safety Modular system enclosure. Power from other UL Listed 24VDC power sources is also acceptable.

The SSD Series display has screw terminals capable of supporting 12 to 22-gage wires. The H-Net communication from the Desigo Fire Safety Modular system can be terminated on the SSD Series display, or may pass through for communication with other modules. Diagnostic LEDs on the SSD Series display indicate power and communication status.

Models SSD and SSD-C can be mounted in a (2) two-gang electrical box or a (4) four-inch square electrical box. No flush-trim kit is required. The unit is approximately 10-1/2" (26.7cm.) wide, 6-1/8" (15.2cm.) high, and1-1/2" (3.8cm.) deep.

The Model SSD-C-REM is mounted in a Model REMBOX2 or Model REMBOX4 Remote Lobby Enclosure, or any CAB enclosure inner door. Model SSD-C-REM requires two (2) module spaces in the remote lobby enclosure, and its bracket supports the mounting of four (4) inner door modules (such as Model SCM-8 or Model LCM-8 modules) below the display. The inner door module spaces are arranged in two (2) rows of (2) two-module spaces.

## Temperature and Humidity Range

Products are UL 864 10th Edition Listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

## Electrical Ratings

| SSD-C | |
|---|---|
| TYPICAL | 200mA (max) at 24 VDC |
| INPUT VOLTAGE | 24 VDC (Nominal)<br>( 31 VDC max ) filtered |

**NOTE**:
An auxiliary-regulated, power-limited power supply may be used to provide power to Model SSD. The power supply must be UL Listed for Fire-Protection Signaling Application. Be sure to also include Model SSD-C in the battery calculations.

| SSD / SSD-INTL | |
|---|---|
| TYPICAL | 200mA (max) at 24 VDC |
| INPUT VOLTAGE | 24 VDC (Nominal)<br>( 31 VDC max ) filtered |

**NOTE:**
An auxiliary-regulated, power-limited power supply may be used to provide power to Model SSD. The power supply must be UL Listed for Fire-Protection Signaling Application.

| SSD-C-REM | |
|---|---|
| TYPICAL | 200mA (max) at 24 VDC |
| INPUT VOLTAGE | 24 VDC (Nominal)<br>( 31 VDC max ) filtered |

**NOTE:**
An auxiliary-regulated, power-limited power supply may be used to provide power to Model SSD-C-REM. The power supply must be UL / ULC approved for Fire Protection Signaling Application. Be sure to also include Model SSD-C-REM in the battery calculations.

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| SSD | 500-034170 | System-Status Display |
| SSD-C | 500-648733 | System-Status Display [with control] |
| SSD-C-REM | 500-634773 | System-Status Display [with control for remote-lobby enclosure] |
| REMBOX2 | 500-633772 | Small Remote-Lobby Enclosure |
| REMBOX4 | 500-633914 | Large Remote-Lobby Enclosure |
| BCM | 500-033320 | Blank Control Module Plate |

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The product(s) described here has/have a specific instruction sheet(s) that cover various technical, limitation and liability information.
Copies of install-type, instruction sheets – as well as the *General Product Warning and Limitations* document, which also contains important data, are provided with the product, and are available from the Manufacturer.

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

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

SIEMENS

## Desigo® Fire Safety

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**Smart Infrastructure - Building Products**
2 Gatehall Drive • Parsippany, NJ 07054
**Tel:** (973) 593-2600

**February - 2023**
**(Rev. 3)**

SIEMENS

# Desigo® Fire Safety Modular System

## Zone-Amplifier Card (40-Watt)
## Model ZAC-40

### Architect & Engineer Specifications

- ☐ 40-Watt, plug-in audio amplifier
- ☐ Selectable audio levels
  - 25VRMS 40 Watts
  - 70VRMS 40 Watts
- ☐ Local audio input
- ☐ Speaker lines supervised when active or inactive
- ☐ Class 'B' or 'A', power-limited wiring
- ☐ Split-zone ( A / B ) wiring on Class 'B'
- ☐ Plugs into either a Model CC-5 or Model CC-2 Card Cage
- ☐ Supports and switches up to eight (8) digital-audio channels
- ☐ Internal amplifier supervision
- ☐ Back-up amplification available
- ☐ UL864 & CAN/ ULC-S576 Listed

### Product Overview

The Zone-Amplifier Card (Model ZAC-40) is a combination 40-Watt, amplifier / speaker zone for use with Desigo Fire Safety Modular panels. Class 'A' or 'B' speaker-zone wiring configurations are supported. Model ZAC-40 is power limited, and can be configured to provide 40 Watts of audio at 25VRMS or at 70VRMS.

Model ZAC-40 is a plug-in card that mounts in a Model CC-5 or CC-2 card cage. Model ZAC-40 is capable of amplifying any of the (8) eight digital-audio channels that are transmitted from the Digital Audio Card (Model DAC-NET), via the digital-audio bus Audio Serial Interface (Model ASI). Model ZAC-40 amplifier is supervised for functionality.

Model ZAC-40 can be used as a single, 40-Watt speaker zone for (1) one-to-eight (8) channel applications, or as a bulk amplifier for one-or-two-channel applications - feeding high-level audio to Models ZIC-4A and ZIC-8B, or for single-channel applications – feeding high-level audio to Model HCP. Model ZAC-40 can also send audio to additional speaker zones, via the use of the Model EBA2004-A1 booster amplifier.

**Zone-Amplifier Card**
**Model ZAC -40**

The speaker lines are supervised for open, short-circuit and ground fault. The speaker lines are also supervised in both the active and inactive states.

To provide amplifier backup, additional Model ZAC-40 cards can be used to achieve the desired amplifier backup ratio of 1 to 1 or 1 to-many.

Model ZAC-40 takes one (1) sub-module address of Model DAC-NET, and receives control and communication data from Model DAC-NET, via the CAN bus on Model DAC-NET.

Model ZAC-40 contains an inherent 'Degrade Mode' backup tone (Slow Whoop) that serves as a secondary backup to the primary backup tone or digital message provided by Model DAC-NET.

A local audio input is provided to connect an external audio source. The local audio input is activated via an external contact, and has the lowest priority of all signals. Model ZAC-40 is FM (#3015946, #3026902); CSFM (#6812-0067:237), and FDNY (#6160) Approved.

## Product Overview – (continued)

Additionally, the Zone Amplifier Card meets the UL 464 requirement for 520 Hz low-frequency signal tone, as described in the section for **Determination of Low Frequency Signal Format** in the **Standard for Audible Signal Appliances** – when used with Models 'SEH' and 'SEFH' series of Siemens high-fidelity notification appliances.

**Typical Applications**

**Emergency**

- Fire Evacuation
- Tornado Alert
- Terror Alert
- Building Emergency

**Non-Emergency**

- Convenience Paging
- Background Music

## Temperature and Humidity Range

Model ZAC-40 is UL864 10th Edition Listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

## Electrical Ratings

| INPUT POWER | | |
|---|---|---|
| **24V CURRENT DRAW** [Back Plane] | | 0mA |
| **24V CURRENT DRAW** [Screw Terminal] | @ 40W | 2.3A |
| | @ 20W | 1.2A |
| | @ 10W | 0.7A |
| | @ 0W | 0.15 |
| **6.2V CURRENT DRAW** [Back Plane] | | 0mA |
| **24V CURRENT DRAW** [Standby] | | 150mA |
| **DRY CONTACT INPUT** | | 24V / 10mA, power limited |

## Product Compatibilities

| MODEL OR TYPE | DATA SHEET |
|---|---|
| HiFi Notification Appliances: 'SEH' Series' | 2589 |
| HiFi Notification Appliances: 'SEFH' | 2590 |
| Desigo Fire Safety Booster Amplifier | 6823 |

## Details for Ordering

| MODEL | PART NUMBER | PRODUCT |
|---|---|---|
| ZAC-40 | 500-035400 | 40-Watt Zone Amplifier |

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

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

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**(Rev. 3)**

SIEMENS

# Desigo® Fire Safety Modular System

## Zone-Indicating Cards

## Model ZIC-8B (with Model ZIC-2C mounted)

### Architect & Engineer Specifications

- ☐ Operates audible or visual notification appliance circuits (NACs)
- ☐ Three (3) unique signals from each circuit
  - Operates 25V or 70VRMS audio speakers
- ☐ One (1) or (2) two-channel voice operation
- ☐ Eight (8) `Class B' (Style Y) circuits
- ☐ Fully programmable
- ☐ Coded audibles available
- ☐ On-board microprocessor
- ☐ Automatic / manual control
- ☐ Selectable degrade operation
- ☐ March time / Uniform `Code 3'
- ☐ Built-in strobe synchronization
- ☐ Built-in, ground-fault detection
- ☐ Circuits power limited, per NEC 760
- ☐ Silence / non-silence option
- ☐ Output power rated 2.0 Amps @ 24 VDC per circuit
- ☐ UL 864 10th Edition Listed & ULC Listed

### Product Overview

The Zone-Indicating Card (Model ZIC-8B) provides eight (8) fully-supervised, programmable output circuits for use on each Desigo Fire Safety Modular system fire-alarm control panel (FACP).

Model ZIC-8B supplies eight (8) 'Class B'-type (Style Y) output circuits; power limited to 2.0 amps maximum per circuit. Each circuit can be independently programmed for use with listed audible or visual notification appliances, or listed emergency-audio speakers.

With the use of the Model EBA2004-A1 booster amplifier, Model ZIC-8B can also send audio to additional speaker zones. Model ZIC-8B plugs into one (1) slot in the Model CC-5 or Model CC-2 Card Cage, and has on-board light-emitting diodes (LEDs) for system status and troubleshooting. Model ZIC-2C mounts directly onto Model ZIC-8B, and allows each of the Model ZIC-8B output circuits to be used for (2) two-channel voice applications.

**Model ZIC-8B**
**Zone Indicating Card**

Indication of power, communication, internal operation, and ground-fault conditions are provided, as well as indication of circuit activation or trouble conditions. All system status conditions are also reported to the system Operating Interface (OI).

Each circuit or output may be time-based, as well as controlled automatically with Desigo Modular system logic via the programmable custom-configuration tool, *ZEUS-D*. Manual setting is accomplished from the OI keypad found at the front of the Desigo Fire Safety Modular system.

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

When any circuit or output has been 'Disarmed,' the display for the OI will indicate the affected circuit or output, and the 'Partial-System Disable' LED will illuminate, until the circuit or output has been returned to the `Armed' condition. Model ZIC-8B circuits can also be manually energized or de-energized when in the `Disarmed' state, via use of the OI.

**Model ZIC-2C**

## Product Overview – (continued )

Model ZIC-8B contains an on-board microprocessor, which allows notification-circuit outputs to function in a degrade mode – even if the main Desigo Modular processor or the local-network-communication link has failed.

In degrade mode, Model ZIC-8B will respond to an `Alarm' or `Trouble' command from any intelligent, addressable initiating device or conventional-zone initiating device connected in the same local enclosure.

**Standard NAC Zone** – Each of the eight (8) circuits on ZIC-8B can be configured for use as a standard NAC. The NAC output can be used as a steady, coded, horn / strobe synchronized, horn / strobe synchronized with silence-able horn, strobe synchronized, or unsynchronized strobe output.

The available coding includes ANSI Temporal, March Time 120 pulse per minute (PPM), March Time 60 PPM, March Time 30 PPM, Canadian Two-stage 30 PPM, Canadian Two-stage 120 PPM and custom coding.

Using the horn / strobe synchronized setting for the outputs allows Siemens horns, strobes and horn / strobes to synchronize all horns in a temporal pattern. The horn / strobe synchronized setting for the outputs also allow all strobes to flash simultaneously. The silenceable setting will allow the operator to silence the horns, while keeping the strobes active.

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

**Standard Speaker Zone** – Each of the eight (8) circuits on Model ZIC-8B can be configured for use as a standard-speaker circuit in single or dual-channel systems. Dual-channel operation requires the optional Model ZIC-2C module, which is mounted to a connector directly on Model ZIC-8B.

No additional mounting space is required for the ZIC-2C. Model ZIC-8B can be used with the Model ZAM-80/180 bulk amplifier or the Model ZAC-40 amplifier card. Model ZIC-8B is limited to 25 Watts max. / zone at 25V (when the zone is active.)
At 70V, Model ZIC-8B is limited to 30 Watts max. / zone.

### Controls and Indicators

| | |
|---|---|
| **RESET SWITCH** | Re-initializes only Model ZIC-8B |
| **POWER LED** | Indicates power is applied to the Model ZIC-8B card |
| **CARD-FAIL LED** | Illuminates when the card microprocessor has failed |
| **HNET-FAIL LED** | Illuminates when the HNET communication fails, and Model ZIC-8B is in degrade mode. |
| **GND-FAULT LED** | Indicates the detection of a ground-fault condition (either negative or positive) on Model ZIC-8B's field wiring. |
| **ZONE-ACTIVE LEDs** | Illuminates to indicate that the zone has been activated either automatically or manually. There is one (1) LED for each zone. |
| **TROUBLE LEDs** | Indicates the presence of a `Trouble' condition (either an open circuit or a short circuit) on the zone. There is one (1) LED for each zone. |

### Electrical Ratings (Model ZIC-2C)

| | |
|---|---|
| **24V CURRENT DRAW:** [Back Plane] | 17mA, per active output |
| | 0mA |
| | (ZIC-8B S1 in "BP POWER" position) |
| | (ZIC-8B S1 in "EXT POWER" position) |
| **24V CURRENT DRAW:** [Screw Terminal] | 17mA, per active output |
| | 0mA |
| | (ZIC-8B S1 in "EXT POWER" position) |
| | (ZIC-8B S1 in "BP POWER" position) |
| **24V CURRENT DRAW:** [Back Plane] | 0mA |
| **24V CURRENT DRAW:** [Standby] | 0mA |

### Electrical Ratings (Model ZIC-8B)

| | |
|---|---|
| **24V BACK PLANE OR CURRENT DRAW:** [External Power] | See: Note Next Page |
| **24V CURRENT DRAW:** [Screw Terminal] | Total Device Current |
| **6.2V CURRENT DRAW:** [Back Plane] | 0 |
| **24V CURRENT DRAW:** [Standby] | 105mA |

**Note:** The 24V current is dependent on the usage and wiring type of each ZIC circuit. Listed below are the required current draws for each zone's usage and wiring type.

| ZIC-8B Current Requirements Per Output Zone | |
|---|---|
| **ZONE USAGE** | **OUTPUT CURRENT REQUIREMENT** |
| **NOT USED** | 0 |
| **NAC** | 17mA |
| **STROBE – SYNC.** | 17mA |
| **STROBE – UNSYNC.** | 17mA |
| **TWO (2) CHANNEL SPEAKER ZONE** | 34mA |
| **ONE (1) CHANNEL SPEAKER ZONE** | 17mA |
| **NAC – CODED** | 17mA |

**ZIC-8B Standby Current = 91mA**

## Temperature and Humidity Range

Products are UL 864 10th Edition Listed for indoor dry locations within a temperature range of 120 + /-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| ZIC-8B | 500-648670 | (8) Eight-Circuit Zone Indicating Card |
| ZIC-2C | 500-648671 | (2) Two-Channel Adapter Card |



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# Desigo® Fire Safety Modular Enclosures and Equipment

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

## Architect & Engineer Specifications

- ☐ One (1) | two (2) | three (3) row enclosure types
- ☐ Blank plates (ordered separately) for inner and outer doors
- ☐ Clear lens and grill plates (sold separately) for use with outer door
- ☐ UL 864 Listed, ULC Listed

## Product Overview

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

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

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

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

Model REMBOX 2

Model REMBOX 4

Model CAB1
One-row system enclosure

Model CAB2
[with mounted optional inner door]

Model CAB3
[with mounted optional inner door]

**Single-Row Enclosure**

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

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

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

**Two-Row Enclosure**

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

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

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

**Three-Row Enclosure**

Model CAB3, the largest single Desigo Fire Safety Modular enclosure available, can house a maximum three (3) Model CAB-MP cabinet mounting plates in the enclosure, and three (3) rows of inner door mounting slots. The outer door can be configured to open from either side. Model CAB3 consists of the Model CAB3-BB back box; the Model CAB3-BD **black** inner and outer door package, and one (1) Model OD-LP lens plate. The outer door has two (2) locks and key sets installed. Red doors are available via Model CAB3-RD.

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

**Enclosure Trim Kits**

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

CAB2-XBD

CAB3-XBD

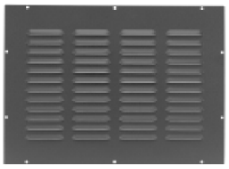
**Remote Transponder Doors**

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

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

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

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



Model OD-GP

**Outer-Door Grill Plate**

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

**Remote System Enclosures**

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

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

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

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

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

REMBOX2
(with doors closed)

REMBOX2
(with doors open)

**Two-Module Remote Enclosure**

Model REMBOX2 has two (2) inner-door module spaces, and can hold on Desigo Modular OI, up to two (2) switch-module brackets, one (1) Model LVM. Combinations are permissible.

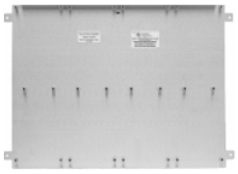
Model REMBOX2 can also mount a single Model RNI on a bracket included in the backbox. A bracket (Model REMBOX2-MP) can be used to mount up to four (4) Model OCM-16s or Model SIM-16 enclosures. Model REMBOX2-MP must be purchased separately. Approximate size of Model REMBOX2 is 14-1/2" (36.8cm.) wide,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

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

Model REMBOX4

**Four-Module Remote Enclosures**

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



Model CAB-MP

**Cabinet Mounting Plate**

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

Model ID-MP

**Inner-Door Mounting Plate**

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

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

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

Model ID-SP

**Inner-Door Single Blank Plate**

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

Model XDACT-ASSY

**Class X Assembly Plate**

The XDACT Assembly (Model XDACT-ASSY) is the blank plate used for holding the optional Digital Alarm Communication Transmitter (DACT), Model FCA2015-U1. The XDACT assembly vertically mounts on the back, left-hand side of an inner door of any type of Desigo Modular panel, adjacent to an Operator Interface (0I).

Model BCM

**Blank Control Module Plate**

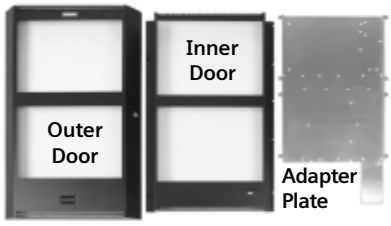
Model BCM is used on Model ID-MP to cover any blank areas where control modules are not used. A maximum four (4) Model BCM plates can be mounted on a single Model ID-MP. Four (4), blank-module plates are included in each Model BCM.

**Outer Door Lens Plate**

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


**Outer Door Blank Plate**

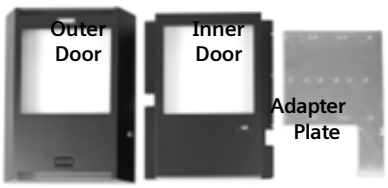
The Outer Door Blank Plate (Model OD-BP) is used to cover an entire row of a Desigo Modular system cabinet. Model OD-BP is mounted when no module is used in that location. Model OD-BP is mounted on the outer door, and one (1) blank plate is included with each order.




**MME-3–series Enclosure Adapters**

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

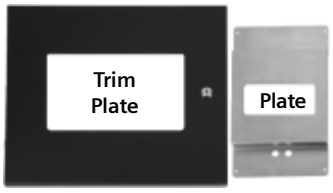
Model XLS-MME3R-ADPT, which must be used in conjunction with Model CAB-MP plates, is an adapter that allows Desigo Modular cards to be mounted in older-generation MXL Model MME-3R medium red enclosures.




**MSE-3–series Enclosure Adapters**

Model XLS-MSE3-ADPT is an adapter that allows Desigo Modular cards to be mounted in older-generation MXL-IQ Model MSE-3L or Model MSE-3M **black** enclosures.

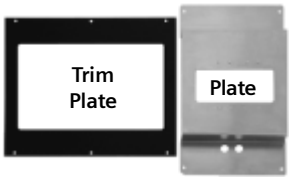
Model XLS-MSE3R-ADPT is an adapter that allows Desigo Modular cards to be mounted in older-generation MXL-IQ Model MSE-3LR or Model MSE-3MR red enclosure.




**RCC13-series Enclosure Adapters**

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

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




**RCC-1–series Enclosure Adapters**

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

**Remote Transponders**

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

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

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

**Enclosure Trim Kits**

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

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| BCM | 500-033320 | Blank Control Module Plate [Four (4) per package] |
| CAB-BATT | 500-633917 | Field-mounted enclosure for 100AH batteries, **black** |
| CAB-BATT-R | 500-634925 | Field-mounted enclosure for 100AH batteries, red |
| CAB1 | 500-633007 | Complete Single-Row Cabinet, **black** |
| CAB1R | 500-633728 | Complete Single-Row Cabinet, red |
| CAB1-TK | 500-633013 | Single-Row Trim-kit Cabinet, **black** |
| CAB1R-TK | 500-633729 | Single-Row Trim-kit Cabinet, red |
| CAB2-BB | 500-633009 | Two-Row Back Box, **black** |
| CAB2-RB | 500-634941 | Two-Row Back Box, red |
| CAB2-BD | 500-633008 | Two-Row Inner & Outer Door Set, **black** |
| CAB2-RD | 500-633755 | Two-Row Inner & Outer Door Set, red |
| CAB2-TK | 500-633014 | Two-Row Trim-kit Cabinet, **black** |
| CAB2R-TK | 500-633753 | Two-Row Trim-kit Cabinet, red |
| CAB2-XBD | 500-633768 | CAB2 Transponder Door |
| CAB2-XRD | 500-633792 | Medium-Enclosure Transponder Door [mounts to Model CAB2-RB] |
| CAB3-BB | 500-633011 | Three-Row Back Box, **black** |
| CAB3-RB | 500-634942 | Three-Row Back Box, red |
| CAB3-BD | 500-633010 | Three-Row Inner & Outer Door Set, **black** |
| CAB3-RD | 500-633757 | Three-Row Inner & Outer Door Set, red |
| CAB3-TK | 500-633015 | Three-Row Trim-Kit Cabinet, **black** |
| CAB3R-TK | 500-633754 | Three-Row Trim-Kit Cabinet, red |
| CAB3-XBD | 500-633769 | CAB3 Transponder Door |
| CAB3-XRD | 500-633793 | Large-Enclosure Transponder Door [mounts to Model CAB3-RB] |

## Details for Ordering – (cont.)

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

## Details for Ordering – (cont.)

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

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

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

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

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

SIEMENS

# Desigo® Fire Safety

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**December - 2022**
**(Rev. 3)**

# Detection Bases

## Intelligent Audible (Sounder) Base [with Loop-Power Option]

### Model ABHW-4B | ABHW-4BZ

## Architect & Engineer Specifications

- ☐ Innovative two-wire, loop-power option
- ☐ Supports Class-X SLC operation via Siemens ISO*technology*
- ☐ Highly flexible programming and configuration options with independently controlled outputs by device
- ☐ Provides six (6) field-configurable audible -tone patterns:
  - Steady
  - American National Standards Institute (ANSI) Temporal 3
  - ANSI Temporal 4 Carbon Monoxide [CO]
  - Temporal 4 Low Power
  - March time 120 (and Canadian March time 30)
- ☐ Power options include:
  - NACs
  - Loop (two-wire)
  - Siemens PAD-series NAC Extenders
  - Model ZIC-4A (for FireFinder XLS FACPs)
  - Any other UL Listed, 24VDC regulated power supply
- ☐ Compatible with Desigo Fire Safety intelligent detectors and Siemens 'H'-series and 'S'-series devices
- ☐ Synchronization by loop
- ☐ Standard 3,000 Hz Buzzer tone
- ☐ UL268, UL464 & UL2075 Listed; ULC-S525, ULC-S529 Listed
- ☐ FM (#3150, #3230 & #3010) and CSFM (#7300-0067:0271) Approved

## Product Overview

The Model ABHW-4B Audible (Sounder) Base from Siemens Industry Inc. is an intelligent, supervised, and addressable detector base designed for use in standard applications requiring an audible notification device. Each Model ABHW-4B base generates a 3,000 Hz audio signal that complies with NFPA 72 Standard.

Model ABHW-4B is UL / ULC Listed, and is the first-ever agencies-listed audible base to have the option of being powered directly from a signal line circuit (SLC) in a two-wire configuration, when used with a Desigo detector. The loop-power feature and advanced configuration options contained with each audible (sounder) base are not available when a Siemens Model 'H'-series detector is used. Though, Model ABHW-4B will function similar to that of a Model ADBH-11 audible base when a Model 'H' or 'S'-series detector is used.

The innovative loop-power option provides easier two-wire connection for new or expansion applications where additional wiring or power options are limited. Model ABHW-4B can also be powered in a traditional four-wire configuration, utilizing a notification-appliance circuit (NAC); a Siemens PAD-series NAC extender; Model ZIC-4A, or any UL Listed, 24VDC regulated power supply.

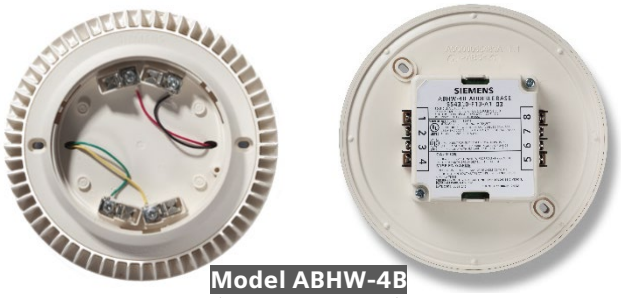
**Note:** See the Model ABHW-4B Installation and Operation Manual (IOM: A6V10405587) for further information.

Model ABHW-4B provides six (6) field-configurable tone patterns: two (2) volume levels are used with compatible Siemens detectors and FACPs. Steady; Temporal 3 pattern; Temporal 4 pattern; Temporal 4 with low power; March Time 120, and Canadian March Time 30 are supported by each intelligent audible (sounder) base.

Intelligent audible (sounder) bases wired in the same device-loop circuit are fully synchronized with the Desigo Advanced-Line and Standard-Line detectors, and support the Siemens Remote Lamps, Models RL-HC and RL-HW.

When used in conjunction with agency-listed / compatible Siemens fire components, Model ABHW-4B may be used in lieu of a single / multiple station smoke alarms to achieve enhanced, system-level functionality.

Each intelligent, addressable audible (sounder) base consists of a standard Siemens Fire Safety Series '11' detector-base layout combined with supportive circuitry for Desigo Fire Safety and Model 'HFP' / 'SFP'-series of addressable detectors.



**Model ABHW-4B**
(Front & Back View)

## Specifications (cont.)

Model ABHW-4B houses a pre-wired, audible (sounder) device capable of generating a 3,000 Hz tone that provides a signal up to 85dBA at 10 feet (3.1m) for localized annunciation.

Several different power options are available to provide power to the Model ABHW-4B audible base. Additionally, all Model ABHW-4B bases are capable of sounding simultaneously, individually or in any combination depending upon the system configuration used on a Siemens FACP.

**Note:** For power and wiring options, see **IOM: A6V10405587**.

Each Model ABHW-4B is a UL / ULC Listed supplementary smoke-detection device that meets or exceeds the 85dB at 10 ft. (3.1m) audibility requirement specified in UL268, ULC-S525, ULC-S529 as well as UL464 / UL2075, except for 520Hz, low-frequency-tone requirements.

## Application Data

The smoke detectors used with Model ABHW-4B are subject to the maximum 30 ft. center spacing (900 sq. ft.) as referred to in the National Fire Protection Association Standard 72. This spacing, however, is based on ideal conditions, namely, smooth ceiling, no air movement, and no physical obstructions between the fire source and the detector.

Do not mount detectors in areas close to ventilating or air-conditioning outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors. It is mandatory for NFPA 72 guidelines be applied to detector placements and spacing.

## Technical Data

| Electrical Ratings | | | |
|---|---|---|---|
| **Operating Voltage:** | Loop power: | 16 - 33 VDC | |
| | External power: | 16 - 33 VDC | |
| ***Supervisory* Current (max)** | From SLC loop: | 250 µA | |
| | From external source: | 20 µA | |
| ***Alarm* Current (RMS max)** | Loop Power: | High dBA: | 7.5 mA |
| | | Low dBA: | 4.5 mA |
| | External Power: | High dBA: | 8.0 mA |
| | | Low dBA: | 3.5 mA |
| **Connections** | | | |
| **Admissible Cross-Section Cable:** | 12 — 18 AWG (American Wire Gauge) | | |
| **Design:** | Two (2) back-end blocks of up to four (4) screw terminals on each side | | |

## Physical Properties

| | | |
|---|---|---|
| **Operating Temperature:** | 32° — 120°F (0° — 49°C) | |
| **Operating Humidity:** | 10 — 95%, non-condensing | |
| **Sound Output:** | High: | ≥ 85 dB |
| | Low: | ≥ 75 dB |
| **Mounting Box:** | (10.2 cm.) 4-inch-square gang box | |

## Compatibility with Siemens FACPs

Model ABHW-4B functions with the following:

| Panel | System Type |
|---|---|
| FireFinder XLS | Person Machine Interface (PMI) *v*10.02 (or later) |
| | *Zeus* Custom-Configuration Software *v*10.02 (or later) |
| | Device Loop Card (Model DLC) *v*6.01 (or later) |
| Model FC2005 | Desigo 50-point addressable FACP v01.04.20 (24), Software-tool v01.02.16 (53) |
| Models FC2025 \| FC2050 | Software-tool v6.0.0R1 (or later) |

## Compatible Intelligent Detectors

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| FDO421 | S54320-F4-A1 | Optical Detector |
| FDT421 | S54320-F5-A1 | Heat Detector |
| FDOT421 | S54320-F6-A1 | Optical Heat Detector |
| FDOOT441 | S54320-F7-A1 | Dual-Optical Heat Detector |
| FDOOTC441 | S54320-F8-A1 | Dual Optical Heat (w/ CO) Detector |

## Compatible Remote Lamps

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| RL-HW | 500-033310 | Remote Alarm Lamp, Wall |
| RL-HC | 500-033230 | Remote Alarm Lamp, Ceiling |

## Compatible Model 'H' / 'S'-Series Detectors

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| HFP-11 | 500-033290 | 'H'-Series Optical / Heat Detector |
| HFPT-11 | 500-033800 | 'H'-Series Heat Detector |
| HFPO-11 | 500-034800 | 'H'-Series Optical Detector |
| SFP-11 | 500-033290C | 'S'-Series Optical / Heat Detector |
| SFPT-11 | 500-033380C | 'S'-Series Heat Detector |
| SFPO-11 | 500-034800C | 'S'-Series Optical Detector |

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| ABHW-4B | S54320-F13-A1 | Audible (Sounder) Base [with Loop-Power Option] |
| ABHW-4BZ | S54320-F13-A2 | Buzzer-Version Audible Base [3KHz tone – C.O.O. USA] |



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SIEMENS

# Desigo®

# Specialized Detection Devices

## 'DB' Series Detector Bases

Models DB2-HR, DB-11 and DB-11E

## Architect & Engineer Specifications

- ☐ Each detector base supports Isolation field wiring for ISO*technology* feature
- ☐ All bases compatible with optional Model LK-11 detector-locking kit
- ☐ Each detector base also functions with the addressable Models FDO421, FDOT421, FDOOT441, FDOOTC441 and FDT421 intelligent detectors
- ☐ Model DB2-HR is compatible with ASA*technology* multi-criteria detectors
- ☐ Each detector base is compatible with Model 'H', "11" and "121" series of conventional detectors
- ☐ Model DB2-HR has backwards compatibility with Siemens Model 'H'-series intelligent detectors
- ☐ Models DB-11 and DB-11E mount on a 4-inch octagon, square or single-gang electrical box
- ☐ Model DB-11 has plugs to cover the outer-mounting screw holes
- ☐ Model DB2-HR mounts on a 4"-square, double-gang electrical box
- ☐ UL268 Listed, ULC-S529 Listed
- ☐ FM, CSFM and NYC Fire Department Approved

## Product Overview

The detector bases are low-profile, surface mounting bases used with various Siemens – Fire Safety conventional and addressable detectors. Model DB2-HR, which is a redesign of Model DB-HR, is compatible with the standard, addressable type of intelligent detectors, as well as the multi-criteria detection devices utilizing the patented ASA*technology*™

Model DB2-HR supports operation with Siemens' 50-point addressable; 252-point addressable; 504-point addressable, and FireFinder® XLS / Modular fire systems. A relay output from the fire detector base for signaling other devices is provided by Model DB2-HR.

The detector bases use screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability. Further, the bases can be used with the optional Model LK-11 detector locking kit, which contains 50 detector locks and an installation tool, to prevent unauthorized removal of the detector head.

## Specifications

Models DB-11 and DB-11E are standard bases for Model 'H'-series "11" and Model "121"-series conventional detectors. Model DB-11 has a 6" (15.2 cm) diameter, and the diameter for Model DB-11E is 4.5 inches (11.4 cm).

Moreover, Models DB-11 and DB-11E mount on a 4"-square, (10.2 cm) octagon or single-gang box. Model DB-11 has integral, decorative plugs to cover the outer screw holes.

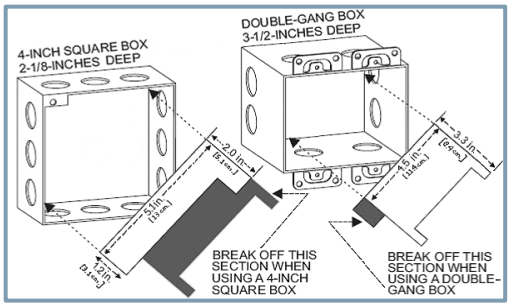
However, Model DB2-HR mounts on a double-gang, 4-inch (10.2 cm.) square electrical box.

Model DB-11

Model DB2-HR

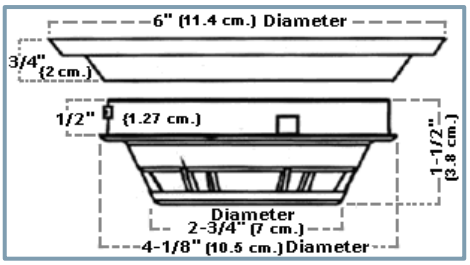
Model DB-11E

## Mounting Diagram




**Model DB2-HR**

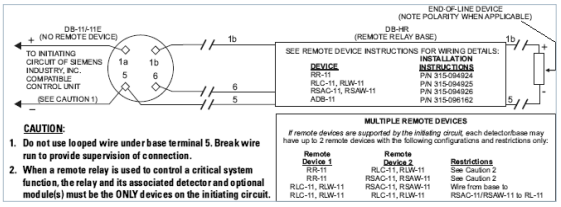
## Dimensions



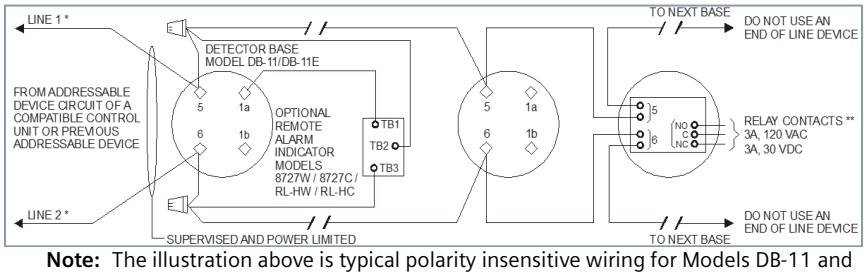

**Model DB-11**

**Note: The Model DB-11E base detector has a diameter dimension of 4.5" (11.4 cm).**

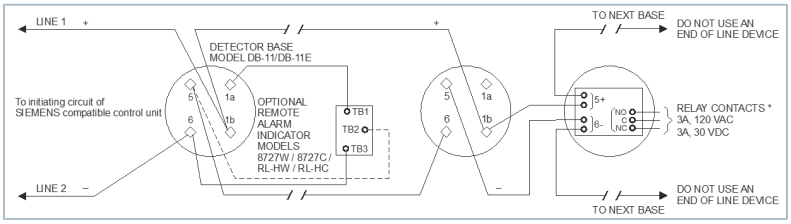
## Wiring Diagrams



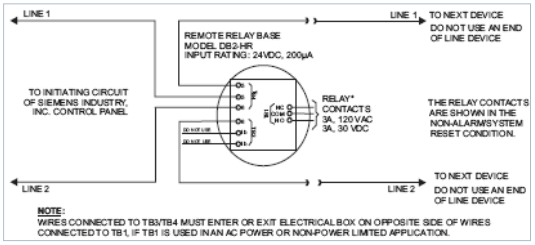

**Note**: The illustration above is typical wiring for Models DB-11 and DB-11E (using Models OH121, OP121, and HI121 detectors).




**Note:** The illustration above is typical polarity insensitive wiring for Models DB-11 and DB-11E (using Models FDO421 / FDOOT441 / FDOOTC441 / FDOT421 / FDT421 detectors).




**Note:** The illustration above is typical isolator mode wiring for Models DB-11 and DB-11E (using Models FDO421 / FDOOT441 / FDOOTC441 / FDOT421 / FDT421 detectors).




**Note:** The illustration above is typical wiring for Model DB2-HR for polarity-insensitive detectors.

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| DB-11 | 500-094151 | Low-Profile Surface-Mount Base |
| DB-11C | 500-095687 | Low-Profile Surface-Mount Base [Canada] |
| DB-11E | 500-094151E | Smaller-Diameter Detector Base |
| DB-HR | 500-033220 | Relay Base for 'H'-Series Intelligent Detector |
| DB2-HR | S54370-F12-A1 | Relay base compatible with standard and advanced detectors; backwards compatible with Model 'H'-series intelligent detectors |
| FDT421 | S54320-F5-A1 | Thermal (Heat) Detector |
| FDOT421 | S54320-F6-A1 | Addressable Multi-Criteria Fire Detector |
| FDO421 | S54320-F4-A1 | Photoelectric Smoke Detector |
| FDOOT441 | S54320-F7-A1 | Multi-Criteria Fire Detector with ASA*technology*™ |
| FDOOTC441 | S54320-F8-A1 | Multi-Criteria Fire / CO Detector with ASA*technology*™ |
| LK-11 | 500-695350 | Base Locking Kit for Model '11'-series detectors |
| HI121 | S54372-F3-A1 | Heat Detector |
| OH121 | S54372-F2-A1 | Multi-Sensor Smoke Detector |
| OP121 | S54372-F1-A1 | Photoelectric Smoke Detector |



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SIEMENS

# Desigo® Fire Safety

## Specialized Devices

Models FDBZ492, FDBZ492-HR, FDBZ492-R and FDBZ492-PR (with FDBZ-WT and FDBZ492-RTL)

### Architect & Engineer Specifications

- ☐ Four (4) models available
- ☐ Addressable and conventional with and without relays
- ☐ Compatible with Siemens — Fire Safety conventional and addressable fire-alarm control panels (FACPs)
- ☐ Magnet test feature with the Model OP121 conventional detector
- ☐ Design for air-velocity range of 100 to 4,000 feet-per-minute (fpm)
- ☐ Robust, compatible conventional remote indicator test switch that incorporates tri-color light-emitting diode (LED)
- ☐ Clear housing cover with smoke test port on cover for quick identification of detector type
- ☐ Removable via four (4) captive-thumb screws (no tools required)
- ☐ Includes a smoke / aerosol detector test port
- ☐ Optional NEMA 4X-reinforced, stainless-steel and watertight enclosure available, Model FDBZ-WT
- ☐ No tools required for cover removal, sampling and exhaust-tube installations
- ☐ Trouble-event activation upon front-cover removal
- ☐ Alarm LED visible from front
- ☐ Self-contained model available with 'on-board' power supply for conventional detectors
- ☐ Expanded temperature range
- ☐ Relay models available
- ☐ UL268A Listed, ULC-S529 Listed
- ☐ FM (#3010), CSFM (#3240-0067:0265) Approved

### Product Overview

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

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

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

**Notes:** Most conventional time-control equipment guarantee only one (1) detector per zone when the detector's operated relay function is critical. The connection of a remote lamp and a remote relay –per detector – is allowed. Refer to the installation manual of the respective conventional FACP. With either the Desigo® series or FireFinder® XLS series of FACPs, up to 252-addressable detectors with relays per circuit may be used. The connection of an intelligent remote lamp (ILED) and a remote relay is allowed for each detector simultaneously.

### Specifications

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

Sensitivity for Models FP-11, HFP-11, SFP-11, HFPO-11, SFPO-11 FDO421, FDOOT441 and FDOOTC441 intelligent detectors is verified from the multi-color LED of the respective detector, or its sensitivity reading may be printed by command from the corresponding FACP to an optional printer.


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

## Specifications (cont.)

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

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

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

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

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

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

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

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

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

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

**Sampling Tube Selection Table**

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

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

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

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

## Operation

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

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

***LED can be turned OFF.**

Please follow the corresponding description of the panel used.

## Technical Data

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

## Physical Properties

| | |
|---|---|
| **Dimensions: (H -x- W -x- D)** | Rectangular: 14.38" -x- 5" -x- 2.5" (37 cm. -x- 12.7 cm. -x- 6.36 cm.) Square: 7.75" -x- 9" -x- 2.5" (19.7 cm. -x- 22.9 cm. -x- 6.36 cm.) |
| **Detector Weight:** | 1.8 Lbs. (0.82 Kg.) |

## Air Duct Housing Hardware Package

- Short-Return (outlet) Tube
- Stopper
- #12 + 3/4" Sheet-Metal Screws
- Mounting Template

**Note:** Detector and Sampling Tube to be purchased separately. Minimum hardware required:

- one (1) Air-Duct Housing Assembly
- one (1) Sampling Tube
- one (1) Detector

## Details for Ordering

| Model or Type | Part Number | Description |
|---|---|---|
| FDBZ492 | S54319-B22-A1 | A two-wire addressable or conventional duct detector (without relays) designed for direct use on heating, ventilating and air-conditioning (HVAC) air-duct systems. When equipped, the air-duct detector housing will signal the presence of smoke being carried through the duct system.<br>**For use with the following Models:**<br>▪ OP121<br>▪ FP-11<br>▪ HFP-11<br>▪ HFPO-11<br>▪ PE-11<br>▪ FDO421<br>▪ FDOOT441<br>▪ FDOOTC441<br>▪ PE-11C<br>▪ SFP-11<br>▪ SFPO-11 |
| FDBZ492-HR | S54319-B23-A1 | A two-wire addressable duct detector (with relays) designed for direct use to HVAC air-duct systems and works with the Remote Test Switch (FDBZ492-RTL). This part has a programmable relay base, and when equipped, the addressable air-duct detector housing will signal the presence of smoke being carried through the duct system.<br>**For use with the following Models:**<br>▪ FDO421<br>▪ FDOOT441<br>▪ FDOOTC441<br>▪ FP-11<br>▪ HFP-11<br>▪ HFPO-11<br>▪ SFPO-11<br>▪ SFP-11 |
| FDBZ492-R | S54319-B24-A1 | A two-wire conventional duct detector with relays designed for direct use on HVAC air-duct systems. This detector has a relay base, and when equipped with conventional air-duct housing, will signal the presence of smoke being carried through the duct system.<br>**For use with the following Models**:<br>▪ PE-11 PE-11C<br>▪ OP121 |
| FDBZ492-PR | S54319-B25-A1 | A four-wire conventional duct detector with relays and a built-in power supply. Housing is designed for direct use to HVAC air-duct systems. It has a relay base with a built-in power source. When equipped with conventional air-duct housing, this duct detector will signal the presence of smoke being carried through the duct system.<br>**For use with the following Models:**<br>▪ PE-11 PE-11C<br>▪ OP121 |
| FDBZ492-RTL | S54319-S27-A1 | Device is used for manual testing via a key-switch for duct-housing Models FDBZ492-R, FDBZ492-PR and FDBZ492-HR. Device mounts remotely from the conventional and addressable air-duct housing, allowing for manual relay-output control. The duct-detector remote key-switch also indicates the current state of the detector.<br>**For use with the following Models:**<br>▪ FDBZ492-HR<br>▪ FDBZ492-R<br>▪ FDBZ492-PR |
| FDBZ-WT | S54319-B26-A1 | An optional, separate watertight NEMA 4X enclosure (Model FDBZ-WT) that provides added watertight protection for any of the Model FDBZ492-series duct housings. The duct housing fits into the separate 4X enclosure. This part allows the air-duct detector housing to be installed in the separate enclosure, and can be used in either an outdoor area or in environments where excessive moisture is prevalent.<br>**For use with the following Models:**<br>▪ FDBZ492<br>▪ FDBZ492-R<br>▪ FDBZ492-HR<br>▪ FDBZ492-PR |
| ST-10 | 500-649710 | Sampling tube for Ducts 6" to 1' |
| ST-25 | 500-649711 | Sampling tube for Ducts over 1' to 3' |
| ST-50 | 500-649712 | Sampling tube for Ducts 3" to 5' |
| ST-100 | 500-649713 | Sampling tube for Ducts 5' to 10' |

**Note**: Model names in Red for use in Canada.

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

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

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

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

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**March - 2023**
**(Rev. 6)**

SIEMENS

# Desigo® Fire Safety Detectors and Peripherals

## Photoelectric Smoke Detector Model FDO421

### Architect & Engineer Specifications

- ☐ UL 268 7th edition Listed
- ☐ Built-in ISO*technology*™
- ☐ 252 Isolation devices per SLC
- ☐ Compatible with `H'-series devices on the same loop (with Desigo Fire Safety series fire-alarm control panels)
- ☐ Compatible with Model DPU (device programmer / loop tester)
- ☐ Each detector is self-testing:
  - self-monitored for sensitivity with UL Listed limits
  - complete diagnostics performed every 10 seconds
- ☐ Polarity insensitive via *SureWire*™ technology
- ☐ Functions with Model DB-11–series mounting bases
- ☐ Tri-color detector-status light-emitting diode (LED) with 360 ° view
- ☐ Field-selectable application - sensitivity profiles
- ☐ Remote sensitivity - measurement capability
- ☐ Utilizes advanced, microprocessor-based signal processing
- ☐ Extended temperature-and-humidity operating range
- ☐ Automatic environment compensation
- ☐ Superior electromagnetic interference (EMI) and radio-frequency interference (RFI) immunity
- ☐ Restriction of Hazardous Substances (RoHS compliant)
- ☐ UL Listed | FM & CSFM Approved
  - UL 268: `Open Area Smoke Detection'
  - UL 268A (Duct) - `In-duct housing' use
  - UL 268A (Duct) - `Direct-in-Duct' use
  - ULC-S529: 'System Smoke Detection'
  - ULC-S530: 'Heat Actuated Fire Detection'
  - FM 3230
  - CSFM | File: 7272-0067:0258

### Product Overview

The Photoelectric Smoke Detector (Model FDO421) uses state-of-the-art microcontroller circuitry and surface-mount technology for maximum reliability. Model FDO421 incorporates an optical sensor using a light-scattering detection principle. The device utilizes advanced software algorithms to analyze the signals, and provides highly stable and accurate smoke detection.

Model FDO421 also uses state-of-the-art microprocessor circuitry with error check; detector self-diagnostics, and supervision programs.

Each detector is UL 268 7th edition listed incorporating advanced built-in **ISO*technology*™** - True Class-X SLC operation (use is optional) greatly improving system reliability and circuit integrity while providing advanced addressable fault finding.

The unit fits into one (1) wall-or-ceiling footprint, and only occupies one (1) address on the signal-line circuit (SLC).

Model FDO421 is a plug-in, two-wire, addressable photoelectric smoke detector whose value is increased with built-in **ISO*technology*** feature. Model FDO421 is Underwriters' Laboratories Listed [UL268A Listed for direct in-air duct usage].

Each detector consists of a dust-resistant photoelectric chamber and microprocessor-based electronics with a low-profile plastic housing. Every Model FDO421 fire detector is shipped with a protective dust cover.

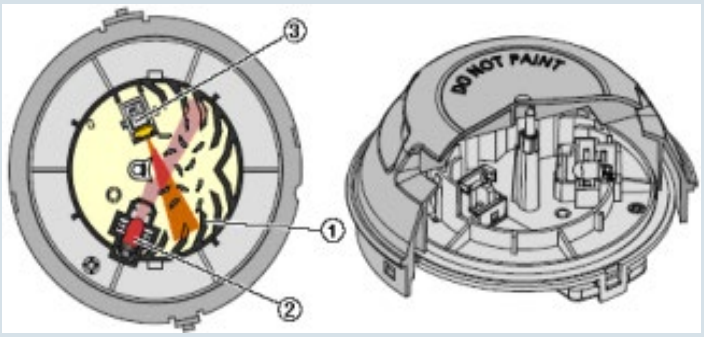
### Operation

Model FDO421 is a wide-spectrum, photoelectric smoke detector that incorporates an infrared light-emitting diode (IRLED), as well as a light-sensing photodiode. Under normal conditions, light transmitted by the LED is directed away from the photodiode and scattered through the smoke chamber in a controlled pattern.

The smoke chamber is designed to manage light dissipation and extraneous reflections from dust particles or other non-smoke, airborne contaminants in such a way as to maintain stable, consistent detector operation. When smoke enters the detector chamber, light emitted from the IRLED is scattered by the smoke particles and is received by the photodiode (see: images on page 2).

**Model FDO421**
**Photoelectric Smoke Detector**

1. Labyrinth
2. Optical transmitter
3. Optical receiver




1. Dust cover
2. Photoelectric smoke detector


Model FDO421

## Sensitivity Settings

**Application Parameter Sets**

Model FDO421 provides four (2) pre-programmed sensitivity parameter sets that can be selected by the Siemens fire-alarm control panel in order to match the expected application or environmental conditions:

- Standard
- Air-duct

***Standard:*** This application parameter set, which is ideal for normal office | hotel-lobby-type applications, is the default setting.

***Air-Duct:*** This application parameter set is used when the detector is used a UL268A (DI) compliant, direct in-air duct application without a duct housing.

Model FDO421 does not require a field sensitivity test. Model FDO421 is UL Listed as a self-testing device and complies with NFPA 72 as a self-monitoring detector and control-panel arrangement. This parameter set is also used when Model FDO421 is used in air-duct housings (Models FDBZ492 and FDBZ492-HR).

A quick visual inspection is sufficient to indicate the condition of Model FDO421 at any time. If more detailed information is required, a printed report can be provided from the compatible FACP, indicating the status and settings assigned to each individual detector. When Model FDO421 moves to `Alarm' mode, the detector will flash RED and continue flashing until the system is reset at the FACP. At that same time, any user-defined, system-alarm functions programmed into the system are activated.

Model FDO421 contains a tri-color LED indicator, capable of flashing any one (1) of three (3) distinct colors: GREEN | YELLOW | RED. During each flash interval, the microprocessor-based detector monitors the following scenarios:

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

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

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

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

A quick visual inspection is sufficient to indicate the condition of the detector at any time. If more detailed information is required, a printed report can be provided from the respective Desigo Fire Safety Modular | FireFinder XLS/V | FC/FV20–series FACP that indicates the status and settings assigned to each individual detector.

## Installation

All Model FDO421 intelligent, addressable detectors use a surface-mounting base (Model DB-11 or DB-11E), which mounts on a 4-inch (10.2 cm.) octagonal, square or single-gang electrical back box. The base utilizes screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability.

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

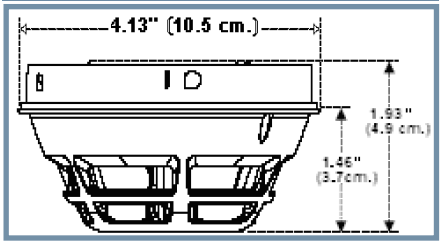
Model FDO421 may be installed on the same initiating circuit with the Siemens Model `H'-series detectors [when used with Desigo Fire Safety Modular | FireFinder XLS/V | FC/FV20–series FACPs] –

- XTRI series interface modules
- HTRI series interface modules
- HMS & XMS series manual stations
- HFP-11, HFPT-11 detection devices
- HCP output-control module
- HZM conventional zone module

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

- Built-in **ISO*technology*** for True-Class-X SLC performance
- Dust-resistant photoelectric chamber
- Microprocessor-based electronics with a low-profile plastic housing

### Dimensional Data




All Model FDO421 intelligent, addressable detectors are approved for operation with the Underwriters' Laboratories-specified temperature range of 32° to 100°F (0° to 38°C). (See: installation manual **P/N — A6V10323928** for further details)

## Application Data

Installation of Model FDO421 smoke detectors require a two-wire circuit. In many retrofit cases, existing wiring may be used. `T-tapping' is permitted only for Style 4 (Class B) wiring. Model FDO421 is polarity insensitive, which can greatly reduce installation and debugging times. When operating in NFPA 72 Class-X applications SLC polarity must be maintained to support up to 252 isolation ready devices per loop. When used in mixed mode a maximum of 30 non-isolated devices between isolation devices (wired in polarity-insensitive mode). See control panel install document for further details.

Model FDO421 detectors can be applied within the maximum 30-feet center spacing (900 sq. ft. areas,) as referenced in NFPA 72.This application guideline is based on ideal conditions – specifically, smooth ceiling surfaces, minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors near ventilation or heating and air conditioning outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection-system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens – Fire Safety distributor or sales office whenever you need assistance applying Model FDO421 in unusual applications. Be sure to follow NFPA guidelines and UL Listed / ULC Listed installation instructions – included with every Siemens – Fire Safety detector – and local codes as for all fire protection equipment.

## Field-Device Programmer / Test Unit

Model FDO421 is compatible with the Siemens field-device programmer / test unit (Model DPU), which is a compact, portable menu-driven accessory for electronically programming and testing these addressable detectors promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

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

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

Each detector fits into one (1) wall-or-ceiling footprint, and only occupies one (1) address on the signal-line circuit (SLC).

## Technical Data

| | |
|---|---|
| **OPERATING TEMPERATURE:** | +32° – +100°F (0° – +38°C) |
| **RELATIVE HUMIDITY:** | 0 – 95% (non-condensing) |
| **AIR PRESSURE:** | No effect |
| **AIR VELOCITY:** | 0 – 4,000 feet-per-minute (fpm) (0 – 20 meters-per-second) |
| **INPUT VOLTAGE RANGE:** | 16VDC – 30VDC |
| **`ALARM' CURRENT, MAX.:** | 410µA |
| **`STANDBY' CURRENT, MAX.:** | 250µA |
| **MAXIMUM SPACING:** | 30–ft. centers (900 sq. ft.), per NFPA 72 |
| **DETECTOR WEIGHT:** | 0.317 Lbs. (0.144 kg.) |
| **MECHANICAL PROTECTION GUARD:** | UL and ULC Listed (with STI Guard Model STI-9604) |
| **SENSITIVITY RANGE:** | 1.41 - 3.76 % / ft obs. (Nominal 2.0 % / ft. obs.) |

## Panel Compatibilities

| MODEL OR TYPE | DATA SHEET | PANEL |
|---|---|---|
| XLS | 6300 | FireFinder® (fire) |
| XLSV | 6340 | FireFinder (fire w/ voice) |
| DESIGO MODULAR | 7300 | Desigo Modular (overview) |
| FC2005 | 6813 | Desigo Fire Safety 50-point addressable |
| FC2025 | 6815 | Desigo Fire Safety 252-pt. addressable (fire) |
| FC2050 | | Desigo Fire Safety 504-pt. addressable (fire) |
| FV2025 | 6821 | Desigo Fire Safety 252-point addressable (fire w/ Intelligent Voice Communication [IVC]) |
| FV2050 | | 504-pt. addressable (fire w/ Intelligent Voice Communication [IVC]) |

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| FDO421 | S54320-F4-A1 | Photoelectric Smoke Detector |

### Compatible Devices:

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| ABHW-4B | S54320-F13-A1 | Buzzer Version Audible Base (standard 3,000 Hz tone) |
| ABHW-4BZ | S54320-F13-A2 | Audible Base |
| ABHW-4S | S54320-F14-A1 | Sleeping Room Version, 520 Hz Low Frequency Audible Base |
| ABHW-4SZ | S54320-F14-A2 | Audible Base |
| DB-11 | 500-094151 | Detector Mounting Base |
| DB-11E | 500-094151E | Detector Base, small |
| DB2-HR | S54370-F12-A1 | Detector Mounting Base with Relay |
| RL-HC | 500-033230 | Remote Alarm Indicator: 4" (10.2 cm) octagon-box mount, red |
| RL-HW | 500-033310 | Remote Alarm Indicator: single-gang box mount, red |
| FDBZ492 | S54319-B22-A1 | Addressable Air-Duct Housing |
| FDBZ492-HR | S54319-B23-A1 | Addressable Air-Duct Detector with Relay |
| LK-11 | 500-695350 | Base Locking Kit |

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

**In Canada order:**

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

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**March - 2024**
**(Rev. 15)**

SIEMENS

# Desigo® Fire Safety
# Detectors and Peripherals

## Multi-Criteria Fire Detector [with **ASA***technology*™]

## Model FDOOT441

### Architect & Engineer Specifications

- ☐ UL 268 7th edition Listed, ULC Listed; FM (#3230, #3210), CSFM (#7272-0067:0258) Approved
- ☐ Built-in ISO*technology*™
- ☐ Advanced multi-criteria fire detector that has dual-optical thermal sensors
- ☐ Differentiates between deceptive phenomena and an actual fire (nuisance-alarm avoidance)
- ☐ Provides enhanced detection via forward-and-backward light-scattering technology
- ☐ Complies with NFPA 76 (Telco standard) as `VEWFD' high-sensitivity detector
- ☐ UL Listed and FM Approved as a multi-criteria and `VEWFD' fire detector
- ☐ UL 268A Listed for direct air-duct use (4,000 FPM)
- ☐ Supervisory temperature-monitoring feature
- ☐ Remote sensitivity-measurement capability
- ☐ Automatic environmental compensation
- ☐ Up to 22 application profiles
- ☐ Tri-color detector-status light-emitting diode (LED)
- ☐ Polarity insensitive via *SureWire*™
- ☐ Low-temperature warning for sprinkler systems, per NFPA 25
- ☐ Meets UL, NFPA 72 requirements for sensitivity self-monitoring
- ☐ Compatible with:
  - Model DB-11_series mounting bases
  - Model 8720 / DPU (device programmer / loop tester)
- ☐ Restriction of Hazardous Substances (RoHS compliant)
- ☐ Responds to both flaming and smoldering-fire signatures

### Product Overview

Model FDOOT441 is an advanced, flexible multi-criteria fire detector incorporating a redundant optical / thermal sensor. Additionally, Model FDOOT441 utilizes **ASA***technology*™ a distinctive forward / backward, light-scattering technology that provides high-tech, unparalleled fire detection to the widest range of fire types allowing the detector to distinguish non-threatening deceptive phenomena.

Each FDOOT441 unit is UL 268 7th edition listed incorporating advanced built-in **ISO*technology*™** - True Class-X SLC operation (use is optional) greatly improving system reliability and circuit integrity while providing advanced addressable fault finding.

The unit may be programmed as a high-sensitivity detector, with a 0.2 %/ft Pre-Alarm threshold and 1.0 %/ft Alarm threshold thus meeting NFPA 76 requirements (*Standard for the Fire Protection of Telecommunications Facilities*) as a Very Early Warning Fire Detector (VEWFD).

Every FDOOT441 unit is a multi-purpose, addressable detector providing a complete contemporary solution meeting fire detection needs for commercial facilities. Each individual FDOOT441 sensor can be field programmed for simultaneous and / or independent functionality, depending upon the precise customer and application requirements.

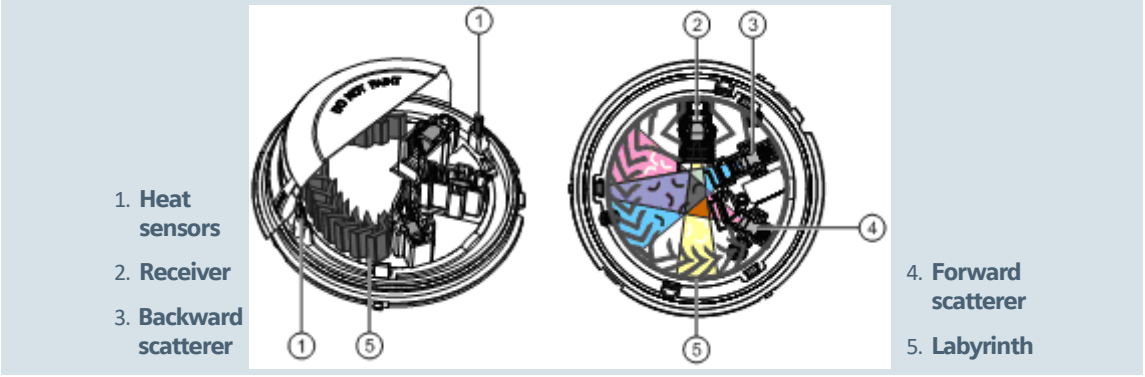
For example, the detector can simultaneously utilize the optical and heat sensors for enhanced multi-criteria fire detection, as well as provide independent outputs for heat detection. Any combination of the sensors is possible.

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

- Multi-criteria fire detector (ⓁUL 268 7th edition)
- Heat detector (ⓁUL 521) with five (5) possible field-selectable temperatures; combined with four (4) rate-of-rise options
- Direct, in-duct (plenum) detector (ⓁUL 268A)
- Supervisory monitoring for temperature ranges
- NFPA 76 (Telco Standard) as VEWFD
- Low-temperature warning signal at 40°F (4.4°C) for sprinkler systems, per NFPA 25 / NFPA 72

For instance, the signals from the detector's sensors are monitored and processed via the **ASA**–patented algorithm technology, which combines the signals into a neural network to create an intelligent, multi-criteria addressable detector.

**Model FDOOT441**
**Multi-Criteria Fire Detector**
**[**with **ASA***technology***]**




**Model FDOOT441**
**Forward-and-Backward Light-Scattering Technology**

## Product Overview – (continued)

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

Since Model FDOOT441 is a two-wire, addressable device, functioning as a multi-purpose detector – satisfying the revised requirements of UL 268 7th edition using smoke-and-heat detection in a singular, aesthetically pleasing package. Comparable to other multi-functional detectors, Model FDOOT441 also serves as a very cost-effective, viable detection solution that saves on product **|** installation **|** maintenance costs. The unit's value is multiplied with built-in ***ISOtechnology*** the True Class-X - NFPA 72 compliant SLC isolation feature supporting up to 252 isolation ready devices per loop. When used in mixed mode a maximum of 30 non-isolated devices between isolation devices (wired in polarity-insensitive mode). *Each* detector fits into one (1) wall-or-ceiling footprint, occupying one (1) address on the signal-line circuit (SLC).

A patented forward-and-backward, light-scattering technology, capable of distinguishing both small and large products of combustion, operates at the core of each Model FDOOT441 intelligent, addressable detector. Each Model FDOOT441 detector provides an eco-friendly solution to legacy ionization detectors - eliminating the need for a radioactive source, along with inevitable HAZMAT-disposal requirements. The powerful ASA*technology* enables simultaneous detection of smoldering and flaming fires while rejecting nuisance sources in an ecological friendly manner while meeting RoHS - compliant (Restriction of Hazardous Substances) detection alternative to legacy ionization detectors.

Two (2) thermal sensors make each Model FDOOT441 detector a robust, reliable detection device suitable for the most all challenging applications. Additionally, Model FDOOT441 works as a heat detector, compliant with NFPA 72 and UL521.

## Operation

**Forward-and-Backward Light-Scattering Technology**

The high-quality, optical-electronic measuring chamber for each Model FDOOT441 houses the following components:

- Two (2) optical transmitters
- One (1) optical receiver
- Two (2) thermal sensors

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

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

Additionally, this scenario generates the following advantages:

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

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

## Operation – (continued)

**Field-Device Programmer / Test Unit**

Every Model FDOOT441 intelligent detection device is compatible with the Siemens field-device programmer / test unit (Model DPU | 8720), which is a compact, portable, menu-driven accessory for electronically programming and testing these addressable detectors promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

Model DPU | 8720 eliminates the need for cumbersome, unreliable mechanical programming methods (e.g. – dials and rotary switches) and reduces installation and service costs by electronically programming and testing the detector prior to installation. When set in `test' mode, Model DPU | 8720 will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the detector is operating properly.

Each field-device programmer / test unit operates on AC power or rechargeable batteries, providing flexibility and convenience in the programming / testing of fire-safety equipment from practically any location. Additionally, with the use of a Model DPU | 8720, there is no longer a cause for concern with any vibration, corrosion and other deteriorating conditions that could negatively affect any electro-mechanical-addressing mechanism.

**Field-selectable application profiles**

Model FDOOT441 provides 22 user-friendly, field-selectable application profiles, identified with universally known names (e.g. — hotel | Telco | office | parking garage | dormitory | data center, etc.) Refer to installation manual: **P/N** – **A6V10324655** for a complete list and description of application profiles.

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

**Field-selectable temperature settings**

Model FDOOT441 provides five (5) field-selectable temperature thresholds, ranging from 135°F to 175°F (57°C to 79°C), with fixed and rate-of-rise options. These ranges provide maximum flexibility to program and to easily adjust the temperature settings that suit multi-application needs with a building or in changing environmental conditions.

Additionally, Model FDOOT441 can be configured to provide a low-temperature warning signal at 40°F (4.4°C). This configuration (along with connection to a compatible fire-alarm control panel [FACP]) meets NFPA 72 requirements for sprinkler-temperature monitoring, and serves to prevent water freezing inside pipes, relative to water-based suppression systems.

**Ambient supervisory feature for temperature-threshold ranges**

Another highlight for Model FDOOT441 is supervision of ambient temperatures, allowing the end user to set a specified, unique warning point at a customized temperature threshold ranging from -4°F to 120°F (-20°C to 49 °C). This feature is practical for monitoring of machinery; special processes, or for environments where maintaining a temperature is critical as an early-warning supervisory signal.

**Self-monitoring for smoke-sensor sensitivity**

Model FDOOT441 provides an automatic, self-monitoring sensitivity check that complies with the NFPA 72 sensitivity requirements. When connected with a compatible FACP, it provides automatic, dynamic sensitivity verification within the agency-listed-and-approved limits. Besides checking for sensor integrity and automatic environmental compensation, Model FDOOT441 provides a display and report of sensitivity in percent-per-foot (or percent-per-meter) at the FACP.

**Profile Overview**

Each Model FDOOT441 intelligent detector contains one (1) tri-color LED indicator, capable of flashing anyone (1) of three (3) distinct colors: GREEN, YELLOW, or RED. During each flash interval, the microprocessor-based detector monitors the following:

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

## Operation – (continued)

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

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

* denotes LED can be turned OFF

Please follow the corresponding description of the panel used.

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

## Installation

All Model FDOOT441 intelligent, addressable detectors use a surface-mounting base (Model DB-11 or DB-11E), which mounts on a 4-inch (10.2 cm.) octagonal, square or single-gang electrical back box. The base utilizes screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability.

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

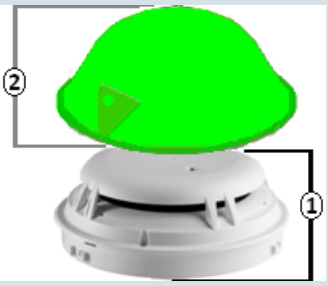
Model FDOOT441 may be installed on the same initiating circuit with the Siemens Model `H'-series detectors [when used with Desigo Fire Safety FACPs] –

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

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

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

1. **Model FDOOT441 addressable detector**
2. **Protective dust cover (included)**




All Model FDOOT441 intelligent detectors are approved for operation with the Underwriters' Laboratories-specified temperature range of 32° to 120° (0° to 49°C) – depending on heat-detector configuration (see: installation manual **P/N – A6V10324655** for further details).

## Application Data

Installation of Model FDOOT441 detector requires a two-wire circuit. In many retrofit cases, existing wiring may be used. `T-tapping' is permitted only for Style 4 (Class B) wiring. In standard applications Model FDOOT441 is polarity insensitive, which can greatly reduce installation and debugging times. When operating in NFPA 72 Class-X applications SLC polarity must be maintained – see XDLC module install document for further details.

Model FDOOT441 fire detectors can be applied within the maximum 30-feet center spacing (900 sq. ft. areas,) as referenced in NFPA 72. This application guideline is based on ideal conditions – specifically, smooth ceiling surfaces with minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors in close proximity of ventilation or heating and air conditioning outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection-system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens – Fire Safety distributor or sales office whenever you need assistance applying Model FDOOT441 in unusual applications. Be sure to follow NFPA guidelines and UL Listed / ULC Listed installation instructions – included with every Siemens – Fire Safety detector – and local codes as for all fire protection equipment.

## Technical Data

| | |
|---|---|
| **OPERATING TEMPERATURE**: | +32° – +120°F<br>(0° – +49°C) |
| **HEAT DETECTOR RANGE**: | +135° – +175°F<br>(+57° – +79°C) |
| **PROGRAMMABLE SUPERVISORY TEMPERATURE WARNING**: | -4° – +120°F<br>(-20° – +49°C)<br>(available with compatible FACPs) |
| **DETECTOR SENSITIVITY RANGE**: | UL Listed:<br>0.88 to 3.35 % / ft.<br>NFPA 76 (Telco)<br>VEWFD: 0.2 % / ft. *Pre-alarm*<br>1.0 % / ft. *Alarm* |
| **AIR VELOCITY**:<br>Open Area:<br>Direct-in-duct: | 0 – 4,000<br>feet-per-minute (fpm)<br>0 – 4,000 fpm |
| **AIR PRESSURE**: | No effect |
| **APPLICATION PROFILES**: | 22<br>(field-configurable) |
| **RELATIVE HUMIDITY**: | 0 – 95%<br>(non-condensing) |

## Thermal Ratings

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

| FIELD-SELECTABLE ALARM-THRESHOLD PROFILES | |
|---|---|
| **THRESHOLD**: | 2.5% / feet |
| | 3.0% / feet |
| **THRESHOLD, VERIFIED**: | 2.5% / feet |
| | 3.0% / feet |

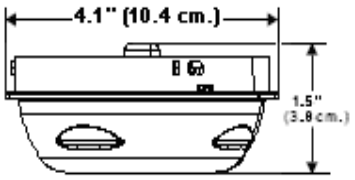
## Approvals | Standards

| | |
|---|---|
| **FACTORY MUTUAL (FM)** | 3210, 3230 |
| **CALIFORNIA STATE FIRE MARSHAL (CSFM)** | 7272-0067:0260 |
| **UNDERWRITERS LABORATORES (UL \| ULC)** | UL268 |
| | UL268A |
| | UL521 |
| | ULC-S529 |
| | ULC-S530 |
| **NATIONAL FIRE PROTECTION AGENCY** | NFPA 25 |
| | NFPA 72 |
| | NFPA 76 |

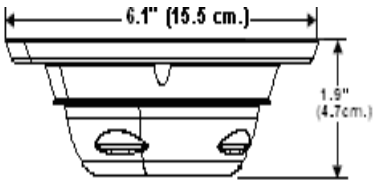
## Electrical Ratings

| | |
|---|---|
| **INPUT VOLTAGE RANGE**: | 13 – 32 VDC |
| ***ALARM* CURRENT**: | 650 µA, max. |
| **STANDBY CURRENT**: (quiescent) | |

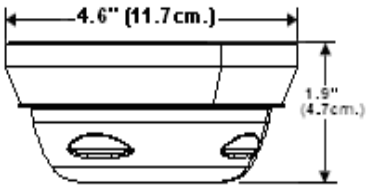
## Mounting Diagrams | Dimensions




**Model FDOOT441**




**Model FDOOT441**
**[with Model DB-11 detector base]**




**Model FDOOT441**
**[with Model DB-11E detector base]**

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| FDOOT441 | S54320-F7-A1 | Multi-Criteria Fire Detector with **ASA***technology*™ |

### Compatible Devices

| | | |
|---|---|---|
| ABHW-4B | S54320-F13-A1 | Buzzer Version Audible Base (standard 3,000 Hz tone) |
| ABHW-4BZ | S54320-F13-A2 | Audible Base |
| ABHW-4S | S54320-F14-A1 | Sleeping Room Version, 520 Hz Low Frequency Audible Base |
| ABHW-4SZ | S54320-F14-A2 | Audible Base |
| DB-11 | 500-094151 | Detector Mounting Base |
| DB-11E | 500-094151E | Detector Base, small |
| DB2-HR | S54370-F12-A1 | Detector Mounting Base with Relay |
| RL-HC | 500-033230 | Remote Alarm Indicator: 4" (10.2 cm) octagon-box mount, red |
| RL-HW | 500-033310 | Remote Alarm Indicator: single-gang box mount, red |
| LK-11 | 500-695350 | Base Locking Kit |

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

**In Canada order:**

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

## Product Compatibilities

| MODEL OR TYPE | DATA SHEET | PANEL |
|---|---|---|
| XLS | 6300 | FireFinder (fire) |
| XLSV | 6340 | FireFinder (fire w/ voice) |
| Modular | 7300 | Desigo Modular |
| FC2005 | 6813 | Desigo Fire Safety 50-point addressable |
| FC2025 | 6815 | Desigo Fire Safety 252-point addressable (fire) |
| FC2050 | | Desigo Fire Safety 504-point addressable (fire) |
| FV2025 | 6821 | Desigo Fire Safety 252-point addressable (fire w/ Intelligent Voice Communication [IVC]) |
| FV2050 | | Desigo Fire Safety 504-point addressable (fire w/ Intelligent Voice Communication [IVC]) |

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

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

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

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

SIEMENS

# Desigo® Fire Safety

**Siemens Industry, Inc.**
Smart Infrastructure – Building Products
2 Gatehall Drive • Parsippany, NJ 07054
Tel: (973) 593-2600

**March - 2024**
**(Rev. 13)**

SIEMENS

# Desigo® Fire Safety
# Detectors and Peripherals

## Multi-Criteria Fire | CO Detector [with **ASA***technology*™]
## Model FDOOTC441

### Architect & Engineer Specifications

- ☐ UL 268 7th edition Listed, ULC Listed; FM (#3230, #3210), CSFM (#7272-0067:0258) Approved
- ☐ Built-in ISO*technology*™
- ☐ Competitive 10-year CO sensor lifetime
- ☐ Advanced multi-criteria fire detector that has optical thermal and CO sensors
- ☐ Differentiates between deceptive phenomena and an actual fire (nuisance-alarm avoidance)
- ☐ Compatible with `H'-series devices on the same loop of Desigo Fire Safety FACPs
- ☐ Enhanced detection via forward-and-backward light-scattering technology
- ☐ Supervisory feature for temperature and CO-concentration-threshold monitoring
- ☐ Complies with NFPA 76 (Telco standard) as `VEWFD' high-sensitivity detector
- ☐ UL Listed and FM Approved as a multi-criteria and `VEWFD' fire detector
- ☐ Low-temperature warning for sprinkler systems, per NFPA 25
- ☐ UL 268A Listed for direct air-duct use (4,000 FPM)
- ☐ UL 2075 and NFPA 72 requirements for sensitivity self-monitoring
- ☐ Remote sensitivity-measurement capability
- ☐ Tri-color detector-status light-emitting diode (LED) with 360 ° view
- ☐ Polarity insensitive via *SureWire*™
- ☐ Responds to both flaming and smoldering-fire signatures
- ☐ Supervisory temperature-monitoring feature
- ☐ Automatic environment compensation
- ☐ Meets UL, NFPA 72 requirements for sensitivity self-monitoring
- ☐ Compatible with:
  - Model DB-11–series mounting bases
  - Model DPU (device programmer / loop tester)
- ☐ Restriction of Hazardous Substances (RoHS compliant)

### Product Overview

Model FDOOTC441 is an advanced, multi-criteria fire | CO detector that incorporates a redundant optical / thermal sensor. Additionally, Model FDOOTC441 utilizes **ASA***technology*™ a distinctive forward / backward, light-scattering technology that provides high-tech, unparalleled fire detection to the widest range of fire types
allowing the detector to distinguish non-threatening deceptive phenomena.

Each Model FDOOTC441 unit is UL 268 7th edition listed incorporating advanced built-in **ISO*technology***™ - True Class-X SLC operation (use is optional) greatly improving system reliability and circuit integrity while providing advanced addressable fault finding.

The unit may be programmed as a high-sensitivity detector, with a 0.2 %/ft Pre-Alarm threshold and 1.0 %/ft Alarm threshold thus meeting the requirements of NFPA 76 Standard *for the Fire Protection of Telecommunications Facilities* as a Very Early Warning Fire Detector (VEWFD).

Each FDOOTC441 detector offers a complete and contemporary solution to meet fire and CO life-safety gas-detection specifications. Multi-Criteria Fire / CO Detector detectors can be field programmed for simultaneous and / or independent functionality, depending upon the precise customer and application requirements.

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

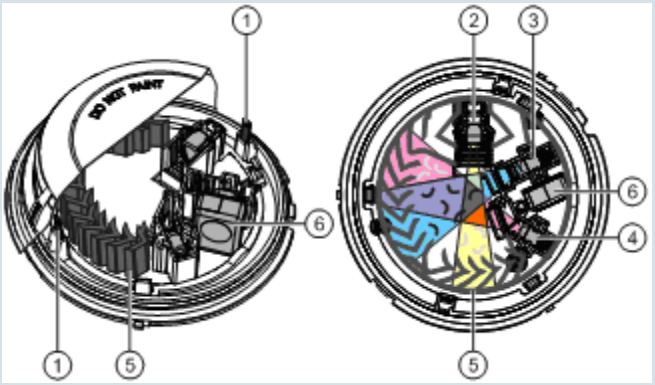
Each detector is very versatile, and meets the following fire-industry standards:

- Multi-criteria fire detector (UL 268 7th edition)
- Carbon Monoxide (CO) gas detector (UL 2075)
- Heat detector (UL 521) with five (5) possible field-selectable temperatures; combined with four (4) rate-of-rise options
- Direct, in-duct (plenum) detector (UL 268A)
- Supervisory monitoring for CO levels and temperature ranges
- NFPA 76 (Telco Standard) as VEWFD
- Low-temperature warning signal at 40°F (4.4°C) for sprinkler systems, per NFPA 25 / NFPA 72

For instance, the signals from the detector's sensors are monitored and processed via the **ASA**–patented algorithm technology, which combines the signals into a neural network to create an intelligent, multi-criteria addressable detector.

**Model FDOOTC441**
**Multi-Criteria Fire | CO Detector**
**[**with **ASA***technology***]**

1. **Heat sensors**
2. **Receiver**
3. **Backward scatterer**




4. **Forward scatterer**
5. **Labyrinth**
6. **CO sensor**

**Model FDOOTC441**
**Forward-and-Backward Light-Scattering Technology (with CO sensor)**

## Product Overview – (continued)

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

Since Model FDOOTC441 is a two-wire, addressable device, it is then able to function as a multi-purpose detector – satisfying the revised requirements of UL 268 7th edition using smoke, heat and CO gas detection in a singular, aesthetically pleasing package. Comparable to other multi-functional detectors, Model FDOOTC441 also serves as a very cost-effective, viable detection solution that saves on product | installation | maintenance costs. The unit's value is multiplied with built-in ***ISOtechnology*** the True Class-X - NFPA 72 compliant SLC isolation feature supporting up to 252 isolation ready devices per loop. When used in mixed mode a maximum of 30 non-isolated devices between isolation devices (wired in polarity-insensitive mode). Each detector fits into one (1) wall-or-ceiling footprint, and only occupies one (1) address on the signal-line circuit (SLC).

A patented forward-and-backward, light-scattering technology, which can distinguish both small and large products of combustion, operates at the core of each Model FDOOTC441 intelligent, addressable CO-with-**ASA** sensor. Each Model FDOOTC441 detector provides an eco-friendly solution to legacy ionization detectors - eliminating the need for a radioactive source, along with inevitable HAZMAT-disposal requirements. Therefore each detector is capable of detecting both smoldering and flaming fires – all in ecologically efficient manner – and is a valid, RoHS-compliant (Restriction of Hazardous Substances) detection alternative to legacy ionization detectors.

Two (2) thermal sensors, as well as an electromechanical CO sensor, are included, making each Model FDOOTC441 detector a robust, reliable device suitable for the most challenging applications. Additionally, Model FDOOTC441 also works as a carbon-monoxide (CO) life-safety gas detector, compliant with NFPA 72 and UL2075.

## Operation

**Forward-and-Backward Light-Scattering Technology**

The high-quality, optical-electronic measuring chamber for each Model FDOOTC441houses the following components:

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

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

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

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

Additionally, this scenario generates the following advantages:

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

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

## Operation – (continued)

**Field-Device Programmer / Test Unit**

Model FDOOTC441 is compatible with the Siemens field-device programmer / test unit (Model DPU), which is a compact, portable menu-driven accessory for electronically programming and testing these addressable detectors promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

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

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

**Field-selectable application profiles**

Model FDOOTC441 provides 26 user-friendly, field-selectable application profiles, identified with universally known names (e.g. — hotel **|** Telco **|** office **|** parking garage **|** dormitory **|** data center, etc.) Refer to installation manual: **P/N – A6V10324657** for a complete list and description of application profiles.

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

**Field-selectable temperature settings**

Model FDOOTC441 provides five (5) field-selectable temperature thresholds, ranging from 135°F to 175°F (57°C to 79°C), with fixed and rate-of-rise options. These ranges provide maximum flexibility to program and to easily adjust the temperature settings that suit multi-application needs with a building or in changing environmental conditions.

Model FDOOTC441 can be configured to provide a low-temperature warning signal at 40°F (4.4°C). Additionally, Model FDOOTC441 occupies only one (1) address on the SLC and provides a CO cell end-of-life warning and fault condition meeting NFPA 72 and UL 2075 requirements. This configuration (along with connection to a compatible Desigo Fire Safety Modular | FireFinder XLS/V | FC/FV20–series FACP) meets NFPA 72 requirements for sprinkler-temperature monitoring, and serves to prevent water freezing inside pipes, relative to water-based suppression systems.

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

Another significant characteristic for Model FDOOTC441 CO detectors lies in the supervision of ambient temperatures. A specified, unique warning point at a customized temperature threshold ranging from -4°F to 120°F (-20°C to 49 °C) can be set manually. This feature is practical for monitoring of machinery; special processes, or for environments where maintaining a temperature is critical as an early-warning supervisory signal.

Optionally, Model FDOOTC441 also provides supervision of the carbon-monoxide (CO) level selected by the customer. The CO supervision is provided in addition to the normal UL2075 and NFPA 72 alarm levels, and is user-customized for special applications. The range for configuration of each Model FDOOTC441 device to a compatible Siemens FACP is 30 – 600 parts-per-million (PPM).

**CO Detection**

In addition to the multi-criteria functionality, each Model FDOOTC441 detector provides an independent CO life-safety signal that meets the requirements of NFPA 72 and UL2075 and meets CO-sensitivity limits under UL2034 Standard. Additionally, Model FDOOTC441 detectors functions from a reliable electrochemical CO cell, transmitting CO concentration on an independent signal separate from the fire-detection signals to the FACP.

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

**Self-monitoring for smoke-sensor sensitivity**

Model FDOOTC441 provides an automatic self-monitoring sensitivity check that complies with the NFPA 72 sensitivity requirements. When connected with a compatible FACP, it provides automatic, dynamic sensitivity verification within the agency-listed-and-approved limits. Besides checking for sensor integrity and automatic environmental compensation, Model FDOOTC441 provides a display and report of sensitivity in percent-per-foot (or percent-per-meter) at the FACP.

## Operation – (continued)

**Profile Overview**

Each Model FDOOTC441 intelligent detector contains one (1) tri-color LED indicator, capable of flashing any one (1) of three (3) distinct colors: GREEN, YELLOW, or RED. During each flash interval, the microprocessor-based detector monitors the following:

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

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

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

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

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

## Installation

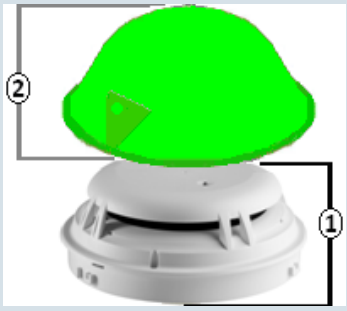
All Model FDOOTC441 intelligent, addressable detectors use a surface-mounting base (Model DB-11 or DB-11E), which mounts on a 4-inch (10.2 cm.) octagonal, square or single-gang electrical back box. The base utilizes screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability.

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

Model FDOOTC441may be installed on the same initiating circuit with the Siemens Model `H'-series detectors [when used with Desigo Fire Safety Modular | FireFinder XLS/V | FC/FV20–series FACPs] –

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

1. **Model FDOOTC441 addressable detector**
2. **Protective dust cover (included)**

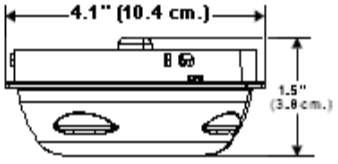



Each detector, which is shipped with a protective dust cover, consists of the following:

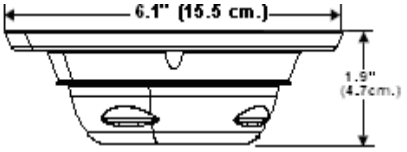
- Dust-resistant photoelectric chamber
- Solid-state, non-mechanical thermal sensor
- CO sensor
- Microprocessor-based electronics with a low-profile plastic housing

All Model FDOOTC441 intelligent detectors are approved for operation with the Underwriters' Laboratories-specified temperature range of 32° to 120° (0° to 49°C) – depending on heat-detector configuration (see: installation manual **P/N – A6V10324657** for further details).

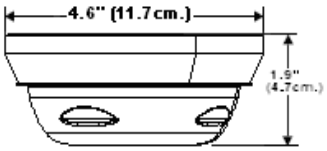
## Mounting Diagrams | Dimensions




**Model FDOOTC441**




**Model FDOOTC441**
**[with Model DB-11 detector base]**




**Model FDOOTC441**
**[with Model DB-11E detector base]**

## Application Data

Installation of Model FDOOTC441 intelligent, addressable detector requires a two-wire circuit. In many retrofit cases, existing wiring may be used. `T-tapping' is only allowed for Style 4 (Class B) wiring. Model FDOOTC441 is polarity insensitive, thus reducing installation and debugging times. Model FDOOTC441 detectors can be applied within the maximum 30-feet center spacing (900 sq. ft. areas,) as referenced in NFPA 72. This application guideline is based on ideal conditions – specifically, smooth ceiling surfaces**,** minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors in close proximity to ventilation or heating and air conditioning outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection-system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens – Fire Safety distributor or sales office whenever you need assistance applying Model FDOOTC441 in unusual applications. Be sure to follow NFPA guidelines and UL Listed / ULC Listed installation instructions – included with every Siemens – Fire Safety detector – and local codes as for all fire protection equipment.

## Technical Data

| | |
|---|---|
| **OPERATING TEMPERATURE**: | +32° – +120°F (0° – +49°C) |
| **HEAT DETECTOR RANGE**: | +135° – +175°F (+57° – +79°C) |
| **PROGRAMMABLE SUPERVISORY TEMPERATURE WARNING**: | -4° – +120°F (-20° – +49°C) (available with compatible FACPs) |
| **PROGRAMMABLE SUPERVISORY CO-GAS WARNING**: | 30 – 600 ppm (available with compatible FACPs) |
| **DETECTOR SENSITIVITY RANGE**: | UL Listed: 0.88 to 3.35% / ft. NFPA 76 (Telco)<br>VEWFD: 0.2% / feet *Pre-alarm*; 1.0% / feet *Alarm* |
| **AIR VELOCITY**:<br>Open Area:<br>Direct-in-duct: | 0 – 4,000 feet-per-minute (fpm)<br>0 – 4,000 fpm |
| **AIR PRESSURE**: | No effect |
| **ACTIVE, STANDBY CURRENT**: | 0.75 mA |
| **APPLICATION PROFILES**: | 26 (field-configurable) |
| **CO CONCENTRATION RESPONSE TIMES** | 70±5 PPM in 60 – 240 min.<br>150±5 PPM in 10 – 50 min.<br>400±10 PPM in 4 – 15 min.<br>**NOTE**: meets UL2075 Standard, and has been tested to the sensitivity limits defined in UL2034 Standard.<br>Additionally complies with NFPA 72 code |
| **RELATIVE HUMIDITY**: | 0 – 95% (non-condensing) |

## Approvals | Standards

| | | |
|---|---|---|
| **FACTORY MUTUAL (FM)** | 3210, 3220 | |
| **CALIFORNIA STATE FIRE MARSHAL (CSFM)** | 7272-0067:0260 | |
| **UNDERWITERS LABORATORES (UL \| ULC)** | UL268 | UL2034 |
| | UL268A | UL2075 |
| | UL521 | |
| | ULC-S529 | ULC-S530 |
| **NATIONAL FIRE PROTECTION AGENCY** | NFPA 25 | |
| | NFPA 72 | |
| | NFPA 76 | |

## Thermal Ratings

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

| FIELD-SELECTABLE ALARM-THRESHOLD PROFILES | |
|---|---|
| **THRESHOLD**: | 2.5% / feet |
| | 3.0% / feet |
| **THRESHOLD, VERIFIED**: | 2.5% / feet |
| | 3.0% / feet |

## Panel Compatibilities

| MODEL OR TYPE | DATA SHEET | PANEL |
|---|---|---|
| XLS | 6300 | FireFinder® (fire) |
| XLSV | 6340 | FireFinder (fire w/ voice) |
| DESIGO MODULAR | 7300 | Desigo Modular (overview) |
| FC2005 | 6813 | Desigo Fire Safety 50-point addressable |
| FC2025 | 6815 | Desigo Fire Safety 252-pt. addressable (fire) |
| FC2050 | | Desigo Fire Safety 504-pt. addressable (fire) |
| FV2025 | 6821 | Desigo Fire Safety 252-point addressable (fire w/ Intelligent Voice Communication [IVC]) |
| FV2050 | | Desigo 504-pt. addressable (fire w/ Intelligent Voice Communication [IVC]) |

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| FDOOTC441 | S54320-F8-A1 | Multi-Criteria Fire \| CO Detector with **ASA***technology*™ |

### Compatible Devices:

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| ABHW-4B | S54320-F13-A1 | Buzzer Version Audible Base (standard 3,000 Hz tone) |
| ABHW-4BZ | S54320-F13-A2 | Audible Base |
| ABHW-4S | S54320-F14-A1 | Sleeping Room Version, 520 Hz Low Frequency Audible Base |
| ABHW-4SZ | S54320-F14-A2 | Audible Base |
| DB-11 | 500-094151 | Detector Mounting Base |
| DB-11E | 500-094151E | Detector Base, small |
| DB2-HR | S54370-F12-A1 | Detector Mounting Base with Relay |
| RL-HC | 500-033230 | Remote Alarm Indicator: 4" (10.2 cm) octagon-box mount, red |
| RL-HW | 500-033310 | Remote Alarm Indicator: single-gang box mount, red |
| LK-11 | 500-695350 | Base Locking Kit |

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

### In Canada order:

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

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

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

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

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

SIEMENS

# Desigo® Fire Safety

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**March - 2024**
**(Rev. 11)**

SIEMENS

# Desigo® Fire Safety
# Detectors and Peripherals

## Thermal (Heat) Detector
## Model FDT421

### Architect & Engineer Specifications

- ☐ Built-in ISO*technology*™
- ☐ Compatible with Siemens Model `H'-series devices on the same loop (with Desigo Fire Safety Modular | FireFinder XLS/V | FC/FV20–series fire-alarm control panels
- ☐ Contains seven (7) field-selectable settings in a temperature range of 135°F – 175°F (57.2°C – 78.9°C)
- ☐ Provides a low-temperature warning of 40°F (4.4°C)
- ☐ Field programmable as rate-of-rise or fixed temperature
- ☐ Tri-color detector-status light-emitting diode (LED) with 360 ° view
- ☐ Compatible with Model DPU (device programmer / loop tester)
- ☐ Utilizes advanced, microprocessor-based signal processing
- ☐ Each detector is self-testing:
  - complete diagnostics performed every 10 seconds
- ☐ Polarity insensitive via *SureWire*™ technology
- ☐ Functions with Model DB-11–series mounting bases
- ☐ Superior electromagnetic interference (EMI) and radio-frequency interference (RFI) immunity
- ☐ Restriction of Hazardous Substances (RoHS compliant)
- ☐ UL 521 Listed, ULC Listed
- ☐ CSFM (#7272-0067:0258) Approved

### Product Overview

The Intelligent Thermal (Heat) Detector (Model FDT421) provides an advanced method of detection, address programming supervision – combined with sophisticated FACP communication. Model FDT421 uses a state-of-the-art thermistor, microprocessor and advanced signal analysis, providing high reliability and accuracy.

Additionally, Each Model FDT421 unit is UL listed including advanced built-in **ISO*technology*™** - a "True Class-X" SLC operation (use is optional) greatly improving system reliability and circuit integrity while providing advanced addressable fault finding.

Each model FDT421 is a cost-effective, two-wire / addressable thermal detector that provides a distinctive, advanced feature: seven (7) field-selectable temperature settings specially tailored for application-specific detection needs combined with Class-X SLC operation built-in avoiding additional installation and material cost.

The temperature-range settings for each Model FDT421 detector is between 135°F (57°C) – 175°F (79°C) with fixed and rate-of-rise programmability. This variance provides the customer with maximum flexibility to program the temperature settings to suit multiple application needs and changing environmental conditions.

Model FDT421 can be configured to provide a low-temperature warning signal at 40°F (4.4°C). This feature – along with a compatible FACP (Desigo Fire Safety Modular | FireFinder XLS/V or with Desigo FC /FV2025 or FC /FV2050 FACPs) – serves as prevention of water freezing in pipes for sprinkler systems, meeting NFPA 72.

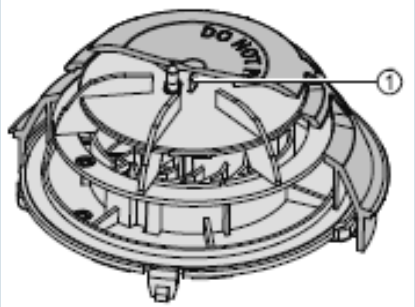
### Operation

Model FDT421 also utilizes a modern, accurate and shock-resistant thermistor to sense significant changes in temperature.

Each Model FDT421 detector has seven (7) pre-programmed parameter sets that can be selected by the Siemens FACP.

**Model FDT421**
**Thermal (Heat) Detector**

1. Thermistor




Model FDT421

NOTE: Each detector consists of a dust-resistant chamber, a solid state, functional internal sensor, and microprocessor-based electronics with a low-profile plastic housing.

Thermal (heat) detector

## Detector Supervision and Testing

Model FDT421 contains a tri-color LED indicator, capable of flashing any one (1) of three (3) distinct colors: GREEN | YELLOW | RED. During each flash interval, the microprocessor-based detector monitors the following fire-system conditions:

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

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

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

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

A quick visual inspection is sufficient to indicate the condition of the detector at any time.
If more detailed information is required, a printed report can be provided from the respective Desigo Fire Safety Modular | FireFinder XLS/V or Model FC20-series FACPs that indicates the status and settings assigned to each individual detector.

## Installation

All Model FDT421 detectors use a surface-mounting base, Model DB-11 or Model DB-11E, which mounts on a 4-inch (10.2 cm.) octagonal, square or single-gang electrical box. The base utilizes screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability.

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

Model FDT421 may be installed on the same initiating circuit with the Siemens Model `H'-series detectors and devices [when used with Desigo Fire Safety Modular | Model FC20-series | FireFinder XLS/V FACPs] –

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

## Application Data

Installation of Model FDT421 intelligent, addressable thermal detector requires a two-wire SLC circuit. In many retrofit cases, existing wiring may be used. `T-tapping' is permitted only for Style 4 (Class B) wiring. Model FDT421 is polarity insensitive when not used in Class-X mode, which can reduce installation and debugging times. The unit's value is multiplied with built-in **ISO*technology*** the True Class-X - NFPA 72 compliant SLC isolation feature, supporting up to 252 isolation ready devices per loop. When used in mixed mode a maximum of 30 non-isolated devices between isolation devices (wired in polarity-insensitive mode). Each detector fits into one (1) wall-or-ceiling footprint, and only occupies one (1) address on the signal-line circuit (SLC).

Model FDT421 can be applied within the maximum 50-feet (15.24 m.) center spacing (2,500 sq. ft. [232.3 sq. m.]) per Underwriters' Laboratories. This application guide is based on ideal conditions, specifically, smooth-ceiling surfaces, minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors in close proximity to heating | ventilation | air-conditioning (HVAC) outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens – Fire Safety distributor or sales office whenever you need assistance applying Model FDT421 in unusual applications.

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

## Specifications

Model FDT421 is a plug-in, (2) two-wire thermal (heat) detector, compatible with Desigo Modular | FireFinder XLS/V and Model FC20-series FACPs. Each Model FDT421 detector has microcomputer-chip technology and highly stable, solid-state electronic circuitry. Model FDT421 detectors utilize a modern, accurate and shock-resistant thermistor to sense temperature changes. This electronic-sensing method virtually eliminates thermal lag associated with mechanical temperature-sensing devices and provides almost instantaneous temperature status to the FACP.

Model FDT421 provides seven (7) field-selectable, pre-programmed temperature settings:

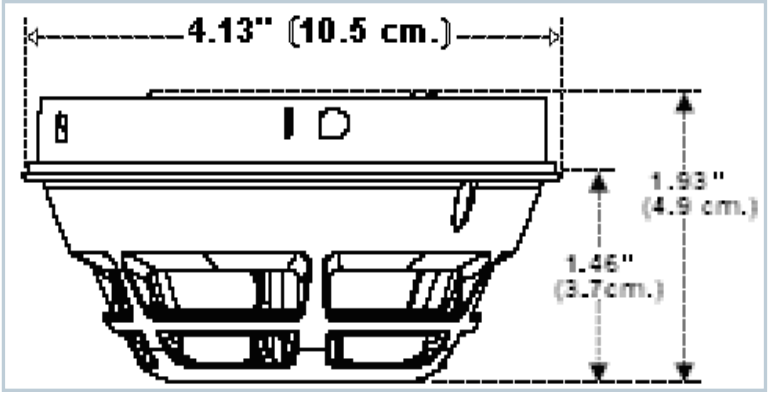
| Fixed Temperature set points (5) | Rate of Rise set points (2) |
|---|---|
| • Fixed 135°F (57°C)<br>• Fixed 145°F (63°C)<br>• Fixed 155°F (68°C)<br>• Fixed 165°F (74°C)<br>• Fixed 175°F (79°C) | • Rate-of-Rise: 15°F / min. (8.3°C) at fixed 135°F (57°C)<br>• Rate-of-Rise: 15°F / min. (8.3°C) at fixed 175°F (79°C) |

Additionally, the Model FDT421 detector has the following optional feature:

- Model FDT421 provides indication of potential water freezing for sprinkler systems, via configuration for reporting a low-temperature warning of 40°F (4.4°C).

This feature is compatible with Desigo Modular systems, as well as with FireFinder XLS/V and Desigo FC/FV2025 or FC/FV2050 FACPs.

## Mounting Diagrams | Dimensions




**Model FDT421**

## Field-Device Programmer / Test Unit

Model FDT421 is compatible with the Siemens field-device programmer / test unit (Model DPU), which is a compact, portable and menu-driven accessory for electronically programming and testing these addressable detectors promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

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

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

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

## Technical Data

| | |
|---|---|
| **OPERATING TEMPERATURE:** | +32° – +120°F (0° – +49°C) [with 145°F (63°C) \| 155°F (68°C) \| 165°F (74°C) and 175°F (79°C) alarm-threshold settings] +32° – +100°F, (0° – +38°C) [With 135°F (57°C) alarm threshold setting] |
| **THERMAL RATING:** | Model FDT421 provides seven (7) field-selectable, pre-programmed temperature settings:<br>• Fixed 135°F (57°C)<br>• Fixed 145°F (63°C)<br>• Fixed 155°F (68°C)<br>• Fixed 165°F (74°C)<br>• Fixed 175°F (79°C)<br>• Rate-of-Rise: 15°F / min. (8.3°C) at fixed 135°F (57°C)<br>• Rate-of-Rise: 15°F / min. (8.3°C) at fixed 175°F (79°C) |
| **RELATIVE HUMIDITY:** | 0 – 95% (non-condensing) |
| **AIR PRESSURE:** | No effect |
| **INPUT VOLTAGE RANGE:** | 16VDC – 30VDC |
| **`ALARM' CURRENT, MAX:** | 410µA |
| **`STANDBY' CURRENT, MAX:** | 250µA |
| **MAXIMUM SPACING:** | 50–ft. (15.24 m.) centers (2500 sq. ft. \| 232.3 sq. m.), per NFPA 72 and ULC-S524 |
| **DETECTOR WEIGHT:** | 0.317 Lbs. (0.144 kg.) |

## Panel Compatibilities

| MODEL OR TYPE | DATA SHEET | PANEL |
|---|---|---|
| XLS | 6300 | FireFinder (fire) |
| XLSV | 6340 | FireFinder (fire w/ voice) |
| Desigo Modular | 7300 | Desigo Modular (overview) |
| FC2005 | 6813 | Desigo Fire Safety 50-point addressable |
| FC2025 | 6815 | Desigo Fire Safety 252-pt. addressable (fire) |
| FC2050 | | Desigo Fire Safety 504-pt. addressable (fire) |
| FV2025 | 6821 | Desigo Fire Safety 252-point addressable (fire w/ Intelligent Voice Communication [IVC]) |
| FV2050 | | 504-pt. addressable (fire w/ Intelligent Voice Communication [IVC]) |

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| FDT421 | S54320-F5-A1 | Thermal (Heat) Detector |

### Compatible Devices

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| ABHW-4B | S54320-F13-A1 | Buzzer Version Audible Base (standard 3,000 Hz tone) |
| ABHW-4BZ | S54320-F13-A2 | Audible Base |
| ABHW-4S | S54320-F14-A1 | Sleeping Room Version, 520 Hz Low Frequency Audible Base |
| ABHW-4SZ | S54320-F14-A2 | Audible Base |
| ADB-BOX | 500-698360 | Surface Mount Adapter Box for Audible Base |
| DB2-HR | S54370-F12-A1 | Relay base compatible with Siemens standard and advanced detectors |
| DB-11 | 500-094151 | Detector Mounting Base |
| DB-11E | 500-094151E | Detector Base, small |
| RL-HC | 500-033230 | Remote Alarm Indicator: 4"(10.2 cm) octagon-box mount, red |
| RL-HW | 500-033310 | Remote Alarm Indicator: single-gang box mount, red |
| LK-11 | 500-695350 | Base Locking Kit |

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

### In Canada order:

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

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

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

SIEMENS

# Desigo® Fire Safety

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**November - 2023**
**(Rev. 11)**

SIEMENS

# Peripheral and Detection Devices
# Initiating Device

## Intelligent Test Switch and Status Indicator
## Model TSM-1X

### Architect & Engineer Specifications

- ☐ Intelligent test-switch module with momentary, normally open (N.O.) turn-key activated (T45) switch
- ☐ Dual, built-in isolators
- ☐ Meets Class X (Style 7) survivability requirements
- ☐ Multi-color light-emitting diode (LED) indicates system status:
  - GREEN | AMBER | RED
- ☐ Low current draw
- ☐ Restriction of Hazardous Substances (RoHS) compliant
- ☐ Mounts in a single-gang box:
  - 3.5 inches (8.9 cm.) deep
- ☐ Device Programmer / Tester (Model DPU) programs and verifies device's address:
  - programming capabilities include testing a duct detector, as well as other Siemens addressable devices
- ☐ Capability of being installed anywhere on a communication loop, or on the wiring of that loop
- ☐ UL864 | UL2572 | UL2017 Listed; CAN/ULC-S527 & CAN/ULC-S576 Listed
  - File S24304, Vol. 3

### Product Overview

The Siemens – Fire Safety Intelligent Test Switch Module (Model TSM-1X) is a key-activated (T-45), addressable normally open (N.O.) momentary switch with a tri-color light-emitting diode (LED) indicator. The tri-color LED mimics the status of the associated Siemens smoke detector or compatible device(s). Each Model TSM-1X switch can be configured to test and monitor group of devices, using one (1) address on the fire-alarm control panel (FACP) loop.

Model TSM-1X provides a valid test of a Siemens duct detector – even the detectors found in inconspicuous, inaccessible areas – and will test associated logic functions of duct housings and other modules. Other common applications include: fan-restart switch; drill switch; recall switch, and remote Arm/Disarm switch.

**NOTE**: Refer to installation manual: P/N – A6V101055486 to ensure Model TSM-1X compatibility with the Siemens FACPs intended for use in the given application.

Overall, Model TSM-1X is an economical solution since each X-series Test Switch seamlessly provides combined, pre-packaged functionality of Siemens In/Out modules (TRI-S); Siemens status indicators (ILED-series), and T-45 test switches. Therefore, there is no longer the need of having to buy individual parts and configuring them in the field. Additionally, Model TSM-1X is modernized through its capability to provide built-in isolation, which shows the location of a short.

### Specifications

Model TSM-1X is designed for use with addressable duct detectors or other intelligent devices on a Device Loop Circuit (DLC) of Siemens compatible Fire Alarm Control Panels (FACP). Turn-key activation will cause all associated logic functions to be tested. Typical applications in which key activation is used include: intelligent duct detectors | hidden or inaccessible smoke detectors | Fan, Recall, Restart, Drill and remote Arm/Disarm switches. This alarm condition will cause all logic associated with the duct detector to activate. The TSM-1X is mounted in a 3.5-inch (8.9 cm.) deep single-gang back box, which is supplied-by-others (BO).

Model TSM-1X supports two (2) operation methods:

- ➤ Polarity insensitive mode
- ➤ Isolator mode

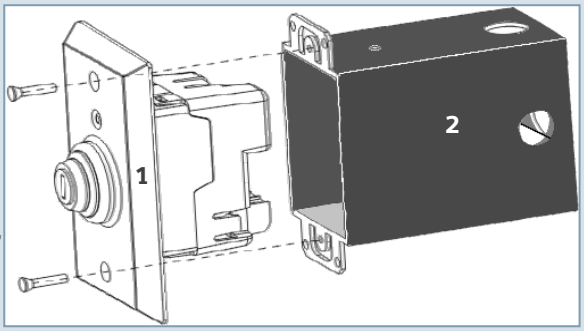
The module can be wired in either mode and configured by the compatible Siemens FACP. While in isolation, the built in dual isolators will work at both sides of the module to isolate a line short in front or behind the module.

Model TSM-1X provides intelligent built-in, dual isolation, meeting Class X (Style 7) survivability requirements for shorts while providing reliable alarm communication to the Siemens FACP. Additionally, Model TSM-1X allows up to 190 isolators per loop, and up to 30 devices between isolators (wired in polarity insensitive mode). The devices between isolators can either be pre-existing `H'-series or later `X' generation devices.


**Model TSM-1X**
**Duct Detector Test Switch**

UL ULC RoHS

NOTES: The single-gang electrical box, seen in this CGI depiction, is supplied-by-others (BO).




1. TSM-1X faceplate
2. Single-gang switchbox (user supplied)

## Specifications – (continued)

The isolation feature found on a Model TSM-1X Test Switch provides a location of the fault (short). When a short occurs, the Siemens FACP can identify the fault automatically and the module recognized the short location (in front of the device or behind the device). Overall, the built-in isolators improve the diagnostics and location of the short and report when a Class X module is misconfigured.

Each Test Switch Module is configurable by a Siemens compatible panel(s) in an isolator (polarity sensitive) or non-isolator (polarity insensitive) mode. When Model TSM-1X is configured as an isolator, it may serve a dual purpose by simultaneously functioning as a test switch and status indicator and isolator. Advanced troubleshooting is provided by compatible Siemens FACPs (via identification for when a Model TSM-1X Test Switch is configured as an isolator, but is wired incorrectly in a polarity insensitive mode).

## Operation

**Field-Device Programmer / Test Unit**

Each Test Switch is programmed with the Siemens field-device programmer / test unit (Model DPU), which is a compact, portable and menu-driven accessory for electronically programming and testing Siemens peripheral modules and devices promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address. Vibration, corrosion and other conditions that deteriorate mechanical-addressing mechanisms are no longer a cause for concern. Each remote alarm lamp is connected to Model DPU with the programming cable provided with the tester. This programming cable **(P/N 110-694927)** utilizes two (2) clip connectors to attach to the module.

**NOTE:** Since Model TSM-1X Test Switches are advanced initiating devices, the latest Model DPU firmware update is required.

When set in `test' mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the detector is operating properly.

Each field-device programmer / test unit operates on AC power or rechargeable batteries, providing flexibility and convenience in the programming / testing of fire-safety equipment from practically any location. Additionally, with the use of a Model DPU unit, there is no longer a concern with any vibration, corrosion and other deteriorating conditions that compromises the vitality of a mechanical-addressing mechanism. Model DPU electronically sets the interface address for each Model TSM-1X into the non-volatile memory of the interface microcomputer-chip.

Each Model TSM-1X module is fitted with screw terminals for connection to an addressable circuit with compatible Siemens FACPs.

**NOTE**: Refer to installation manual: **P/N – A6V101055486** to ensure Model TSM-1X compatibility with the Siemens FACPs intended for use in the given application.

## Application Data

The Model TSM-1X from Siemens is an intelligent, key-activated device that tests detectors for associated logic functions for proper functionality. A Model TSM-1X Test Switch operates with any Siemens intelligent fire, smoke and duct detector used on a compatible Siemens FACP. Other applications include the testing of logic functions of inconspicuous, inaccessible smoke detectors | Fan, Recall, Restart, Drill and remote Arm/Disarm switches.

When the TSM-1X momentary switch is activated, a signal is transmitted to the Siemens compatible FACP, resulting in the Siemens detector on the configuration network to go into `Alarm' mode. In turn, the `Alarm' event will activate all functions programmed to follow the detector. For this reason, Model TSM-1X provides a valid, accurate test of Siemens duct detectors used on Siemens FACPs, therefore meeting the requirement found in local fire-safety jurisdictions.

Every Model TSM-1X Test Switch mounts in a single-gang electrical back box. Additionally, each shipment includes a cover plate.

## Compatibilities

The `X'-series modules may be used, along with Model `H'-series intelligent detectors; Model `HMS'-series addressable manual stations, or any other `H'-series addressable intelligent module (e.g. Model HZM or Model HCP).

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

## Temperature and Humidity Range

Duct Detector Test Switches are UL Listed | ULC Listed. Environmental operating conditions for each Model TSM-1X module is 32°F (0°C) to 120°F (49°C) with a relative humidity of no greater than 95%, non-condensing.

### Technical Data

| | |
|---|---|
| **OPERATING VOLTAGE RANGE**: | 13VDC – 32VDC |
| **RELATIVE HUMIDITY**: | 0 – 95% (non-condensing) |
| **`ACTIVE' OR `STANDBY' CURRENT, MAX.**: | 500µA |
| **LINE SIZES AMERICAN WIRE GAUGE (AWG)** | 14 AWG, max.<br>18 AWG, min. |

### Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| TSM-1X | S54370-B7-A1 | Intelligent Test Switch \| Status Indicator \| Wall Plate \| Isolator |
| DPU | 500-033260 | Device Programmer / Test Unit |

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Copies of install-type, instruction sheets – as well as the *General Product Warning and Limitations* document, which also contains important data, are provided with the product, and are available from the Manufacturer.
Data contained in the aforesaid type of documentation should be consulted with a fire-safety professional before specifying or using the product.

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

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**March - 2023**
**(Rev. 1)**

SIEMENS

# Peripheral and Detection Initiating Devices

## XMS-Series Manual Pull Stations

### Addressable & Conventional Models

## Architect & Engineer Specifications

- ☐ Single & Dual-Action models
- ☐ Built-in ISO*technology*™
  - Complies with NFPA 72 Class X (Style 7) survivability requirements.
  - Supports up to 252 X-Series isolation peripherals per SLC / DLC
  - Supports up to 30 addressable devices between isolator devices
- ☐ Compatible with current Siemens Fire Alarm Control Units (FACU's)
- ☐ Low current draw
- ☐ Polarity insensitive (in non-isolation mode) via SureWire technology
- ☐ Multi-color status LED
- ☐ T-45 reset key
- ☐ Model XMS-2S:
  - Two stage operation via unique activation key
  - T-45 reset key for device reset
- ☐ Minimal mounting depth allowing compatibility with standard single gang electrical boxes in retrofit sites
- ☐ Trouble indication during service and maintenance
- ☐ Single action, Dual-action, and metal versions available
- ☐ French, Portuguese, and Spanish versions available
- ☐ UL38 Listed
- ☐ ULC-S528 Listed
- ☐ RoHS compliant

## Product Overview

The XMS-Series of manual pull stations are a complete addressable and conventional pull station portfolio including single action, dual-action, 2-Stage, and metal versions. The addressable versions feature built-in Class X (Style 7) isolation capability for increased system survivability. All models feature a T-45 reset key to match the fire alarm panel enclosure. Addressable models also feature a tri-color status LED to indicate normal, alarm, and trouble status. All models utilize one address.

The manual stations can be commissioned to operate in non-isolation (polarity insensitive) or isolation with Class X mode of operation.

## Specifications

Models XMS-S, XMS-D, XMS-DA, XMS-2S, and XMS-M are compatible with Siemens FACPs. The Model XMS-S is a single action pull station in a plastic housing that requires one action by the user to initiate the alarm. Models XMS-D, XMS-2S, and XMS-DA are dual-action pull stations in a plastic housing that require two actions by the user to initiate an alarm. The Model XMS-M is a single action pull station in a metal housing that requires one action by the user to initiate the alarm. These models are field installed addressable devices containing advanced control panel communication technology.

The XMS-Series manual pull stations feature a "maintenance trouble" that places the fire alarm panel into a trouble condition if an XMS is accidentally left in an armed status when the cover is removed for maintenance work.

This technology provides bi-directional communication with the connected control panel. To reset the stations, insert the Siemens T-45 key provided into the key lock and turn the key 10-15 degrees counterclockwise as the arrow shows. The cover will move upward to the normal position. Rotate the key clockwise and remove key from the lock. At Normal position the top of the Cover is flush with the top surface of the Base. Reset the Fire Alarm Control Panel to clear the alarm.

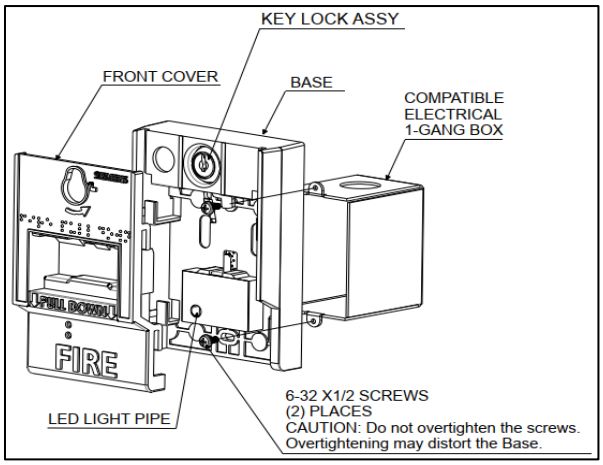
Model XMS-D

The addressable XMS pull station variants are compatible with all current models of Desigo Fire Safety & Cerberus PRO commercial fire alarm control panels. These devices can be wired in either Isolation Mode or Polarity Insensitive Mode Wiring.

The XMS-S & XMS-M manual station front cover has a recess pocket to pull down and locks in position after the alarm is initiated. The XMS-D, XMS-DA & XMS-2S manual stations have an additional lever labeled "PUSH HERE THEN" to get access to the front cover pocket to initiate the alarm.

UL RoHS ULC COMPLIANT

## Mounting Diagram




## Technical Data

| | |
|---|---|
| Operating Voltage Range | 13 - 32VDC |
| Max Average Operating Current @ 24v: | 500µA |
| Operating Temperature Range | 32° — 120°F (0° — 49°C) |
| Operating Humidity Range | 0 — 95%, RH |

## Physical Properties

| | |
|---|---|
| Construction: | High impact polycarbonate plastic<br>Aluminum |
| Shipping Weight: | 1.0 lbs |
| Dimensions: | 5.50" H x 4.0" W x 1.250" D |
| Compliance: | ADA |
| Compatible Electrical Boxes: | 2-1/2" deep 1-gang box |


Model XMS-DA


Model XMS-2S

## Order Details

| Model or Type | Part Number | Description |
|---|---|---|
| XMS-S | S54321-F7-A1 | Addressable Single Action Manual Pull Station with Isolation |
| XMS-D | S54321-F8-A1 | Addressable Dual-Action Manual Pull Station with Isolation |
| XMS-M | S54321-F19-A1 | Addressable Single Action Metal Pull Station with Isolation |
| XMS-SP | S54321-F9-A1 | Addressable Single Action Manual Pull Station with Isolation - Portuguese Text |
| XMS-DP | S54321-F10-A1 | Addressable Dual-Action Manual Pull Station with Isolation - Portuguese Text |
| XMS-SE | S54321-F11-A1 | Addressable Single Action Manual Pull Station with Isolation - Spanish Text |
| XMS-DE | S54321-F12-A1 | Addressable Dual-Action Manual Pull Station with Isolation - Spanish Text |
| XMH-501 | S54321-F18-A1 | Conventional Dual-Action Manual Pull Station for Agent Release |
| XMS-501 | S54321-F16-A1 | Conventional Dual-Action Manual Pull Station |
| XMS-51 | S54321-F15-A1 | Conventional Single Action Manual Station with Auxiliary Relay and Key Switch |
| SMBOX-XMP | S54321-F20-A1 | Surface Mounting Backbox for X-Series Manual Stations |
| APLT-XMP | S54321-F21-A1 | Adapter Plate for X-Series Manual Stations to Legacy Surface Backboxes |
| 4DGBOX- XMP | S54321-F22-A1 | Adapter Plate for X-Series Manual Stations to 4" and Double-Gang Backboxes |

## Specific Details for Canadian Orders

| Model or Type | Part Number | Description |
|---|---|---|
| XMS-DA | S54321-F13-A1 | Addressable Dual-Action Manual Pull Station with Isolation and Auxiliary contact – French Text |
| XMS-2S | S54321-F14-A1 | Addressable 2-Stage Dual-Action Manual Pull Station with Isolation and Auxiliary contact – French Text |
| XMS-51C | S54321-F23-A1 | Conventional Dual-Action Pull Station with Auxiliary contact – French Text |

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

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

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**June - 2023**
**(Rev. 2)**

SIEMENS

# Peripheral and Detection Devices
# Initiating Device

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

### Architect & Engineer Specifications

- ☐ Siemens ISO*technology*™
  - Provides "True Class–X" operation meeting NFPA 72 SLC field wiring requirements
  - Supports 252 ISO*technology* ready devices per loop, and in mixed mode up to 30 devices between isolated devices
- ☐ Dual input on Model XTRI-D, via a single address
- ☐ Integral single-pole, double-throw (SPDT) relay on Model XTRI-R:
  - Up to 4 Amps.
- ☐ Low current draw
- ☐ Polarity insensitive (in non-isolation mode) via *SureWire*™ technology:
  - Modern technology supports comprehensive system and interface communication
- ☐ Multi-color light-emitting diode (LED) indicates system status: GREEN | AMBER | RED
- ☐ Mounts in a 4-inch (10.2 cm.) square, 2–¼" (5.7 cm.) deep single-gang or double-gang back box
- ☐ Non-obstructive front-end access to programming port and wiring terminals
- ☐ Device Programmer | Test Unit programs and verifies address, as well as tests device functionality
- ☐ Restriction of Hazardous Substances (RoHS) compliant
- ☐ UL864 | UL2572 | UL2017 Listed; CAN/ULC-S527 & CAN/ULC-S576 Listed
  - File S24304, Vol. 3
- ☐ FM Approved

### Product Overview

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

Each XTRI-series interface module provides the "built-in" **ISO*technology*** feature - intelligent dual isolation meeting NFPA 72 Class X (Style 7) wiring requirements. Up to 252 isolators per loop and up to 30 devices between isolators (wired in polarity-insensitive mode). Additionally, the devices between isolators can either be 'H'-series or the more contemporary 'X'-series detection devices.

### Specifications

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

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

XTRI-D | XTRI-R | XTRI-S incorporates **ISO*technology*** – the configurable, built-in dual isolator function. Additionally, an XTRI-series interface module supports NFPA 72 Class X (Style 7) survivability requirements for shorts while providing reliable alarm communication to the Siemens FACP. The isolation feature found on the XTRI-series Intelligent Interface Modules gives information as to the location of the fault. When a short occurs, the panel can identify the fault automatically, and the module recognizes the short location (in front of the device or behind the device). Overall, the built-in isolators improve the diagnostics and location of the problem, including a short.

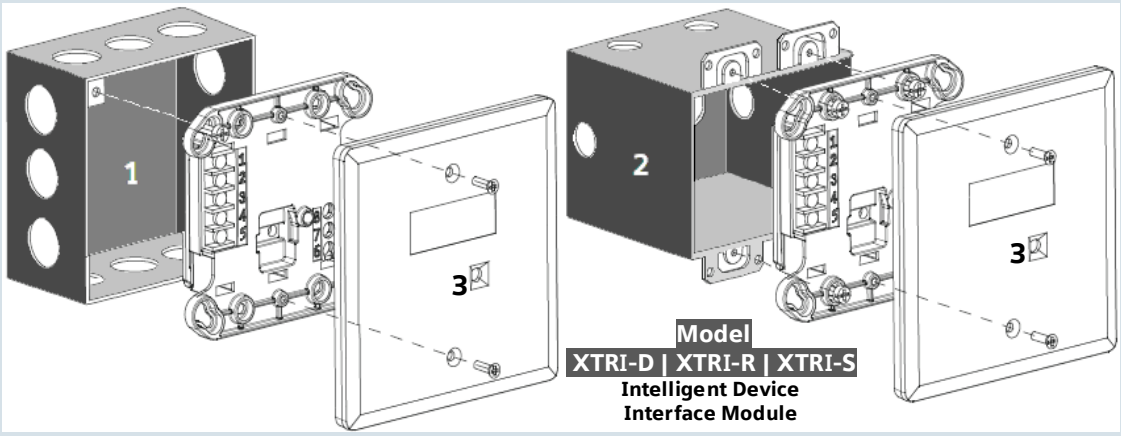
The modules are configurable by a Siemens compatible FACP (or panels) in an isolator (polarity sensitive) or non-isolator (polarity insensitive) mode. When a XTRI-series interface module is configured as an isolator, that module has the capacity of functioning as both an in/out device, as well as an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

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

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

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

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




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

1. **4" (10.2 cm.) square box | 2– 1/8" (5.4 cm.) back box**
2. **3.5" (8.9 cm.) double -gang back box**
3. **5" (12.7 cm.) square switch plate, supplied)**

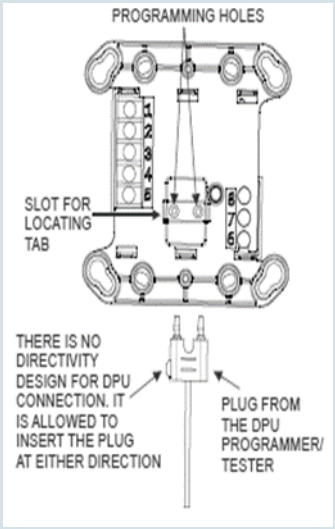
## Specifications (cont.)

### Model XTRI-R

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

### Model XTRI-D

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




NOTES:
Each interface module mounts directly to a user-supplied switchbox.
The electrical boxes, seen above, are supplied-by-others (BO).

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

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

## Operation

### Field-Device Programmer / Test Unit

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

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

Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods (e.g. – dials and rotary switches), and reduces installation and service costs by electronically programming and testing the module prior to installation. When set in `test' mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the module is operating properly.
Each field-device programmer / test unit operates on AC power or rechargeable batteries, providing flexibility and convenience in the programming / testing of fire-safety equipment from practically any location. Additionally, with the use of a Model DPU unit, there is no longer a cause for concern with any vibration, corrosion and other deteriorating conditions that could negatively affect any electro-mechanical-addressing mechanism.

## Compatibilities

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

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

## Temperature and Humidity Range

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

**LED Iindicators**

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

## Technical Data

| | | |
|---|---|---|
| **OPERATING VOLTAGE RANGE**: | 13VDC – 32VDC | |
| **RELATIVE HUMIDITY**: | 0 – 95% (non-condensing) | |
| **`ACTIVE' OR `STANDBY' CURRENT, MAX.**: | 500µA | |
| **LINE SIZES AMERICAN WIRE GAUGE (AWG)** | 14 AWG, max. 18 AWG, min. | |
| **CURRENT DRAW MAX \| AVG.** | XTRI-S | 650µA |
| | XTRI-R | 750µA |
| | XTRI-D | 950µA |
| **RELAY RATINGS: (for Model XTRI-R)** | | |
| **RESISTIVE:** | 4 Amps \| 125 VAC | |
| | 4 Amps \| 30 VDC | |
| **INDUCTIVE:** | 3.5A, 120 VAC (0.6 pF) | |
| | 3.0A, 30 VDC (0.6 pF) | |
| | 2.0A, 120 VAC (0.4 pF) | |
| | 2.0A, 120 VAC (0.35 pF) | |
| | 2.0A, 30 VDC (0.35 pF) | |

## Details for Ordering

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

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

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**October - 2023**
**(Rev. 5)**

SIEMENS

# Peripheral and Detection Devices Initiating Device

## Intelligent Device Interface Mini Module Model XTRI-M

### Architect & Engineer Specifications

- ☐ Siemens ISO*technology*™
  - Provides "True Class–X" operation meeting NFPA 72 SLC field wiring requirements
  - Supports 252 ISO*technology* ready devices per loop, and in mixed mode up to 30 devices between isolated devices
- ☐ Low current draw
- ☐ Restriction of Hazardous Substances (RoHS) compliant
- ☐ Compact size allows mounting in single-gang box behind equipment
- ☐ Supervises and controls normally open (N.O.) and normally closed (N.C.) contacts
- ☐ Polarity insensitive (in non-isolation mode) via *SureWire*™ technology:
  - Modern technology supports comprehensive system and interface communication
- ☐ Device Programmer | Test Unit programs and verifies address, as well as tests device functionality
- ☐ UL864 | UL2572 | UL2017 Listed; CAN/ULC-S527 & CAN/ULC-S576 Listed
  - File S24304, Vol. 3

### Product Overview

The Siemens – Fire Safety Intelligent Interface Module (Model XTRI-M) is designed to provide the means of interfacing direct shorting devices to the fire-alarm control panel (FACP) loop circuit. The module uses one (1) address on the loop.

Each XTRI-series interface module provides the "built-in" **ISO*technology*** feature - intelligent dual isolation meeting NFPA 72 Class X (Style 7) wiring requirements. Up to 252 isolation ready devices per loop and in mixed mode a maximum of 30 non-isolated devices between isolated devices (wired in polarity-insensitive mode). Additionally, the devices between isolators can either be 'H'-series or the more contemporary 'X'-series detection devices.

Model XTRI-M is designed to supervise and control a N.O. or N.C. contact, and reports the contact status to the FACP.

### Specifications

Model XTRI-M incorporates **ISO*technology*** – the configurable, built-in dual isolator feature. Additionally, an XTRI-series interface module supports True Class-X operation meeting current NFPA 72 SLC performance requirements for short circuits while providing reliable alarm communication with the Siemens FACP.

The isolation feature on a Model XTRI-M Mini Module provides the location of the `Trouble' (fault) command sent to the FACP. When a short occurs, the panel can identify the fault automatically. Concurrently, the module recognizes the location of the fault (in front of the device or behind the device).

Overall, **ISO*technology*** protects and maintains system communications while also significantly improving the diagnostic capability to allow simple location of the problem, including a wire to wire short.

Each Mini Module is configurable by the FACP in an isolator (polarity sensitive) or non-isolator (polarity insensitive) mode. When a XTRI-M module is configured as an isolator, it may serve a dual purpose by simultaneously functioning as an input / output device and an isolator.

Advanced troubleshooting is provided by the FACP that is interfacing with Model XTRI-M. That panel can even identify when a Model XTRI-M is configured as an isolator, but that same Mini Module is wired incorrectly in a polarity-insensitive mode.

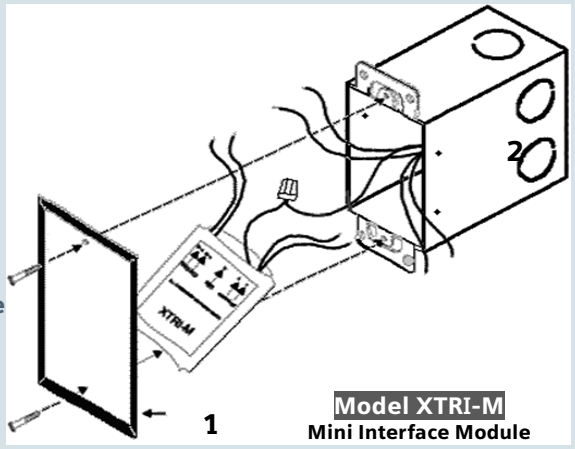

**Model XTRI-M**
**Mini Interface Module**

UL ULC RoHS

**Notes:**

Each Mini Module (Model XTRI-M) mounts directly to a user-supplied, single-gang switch box.
Connect the appropriate wires using wire nuts. Tuck the Mini module (XTRI-M) inside the UL / ULC Listed / recognized electrical box and dress the wiring as required.

1. **Blank, single-gang plate**
2. **Single-gang switch box (user supplied)**




**Model XTRI-M**
**Mini Interface Module**

## Operation

**Field-Device Programmer / Test Unit**

Each Model XTRI-M Mini Module is programmed with the Siemens field-device programmer / test unit (Model DPU), which is a compact, portable and menu-driven accessory for electronically programming and testing Siemens peripheral modules and devices promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

Model XTRI-M is connected to Model DPU with the programming cable provided with the tester. This programming cable (P/N 110-694927) utilizes two (2) alligator clip connectors, to attach to the XTRI-M.

**NOTE**: Since the Mini Module (Model XTRI-M) is an advanced initiating device, the latest Model DPU firmware update is required.

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

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

## Application Data

Each Mini Module (Model XTRI-M) has five (5) flying leads that are wired with user-supplied wire nuts for connection to an addressable circuit with a compatible Siemens FACP.

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

Interspersing any 'X'-series and 'H'-series module / device on the same loop is possible. The only exceptions are the Siemens Isolation Module (Model HLIM), as well as the Siemens Model SBGA-34 audible base.

**NOTE**: Refer to installation manual: **P/N – A6V101055487** to ensure Model XTRI-M compatibility with the Siemens FACPs intended for use in the given application.

## Temperature and Humidity Range

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

## Technical Data

| | | |
|---|---|---|
| **OPERATING VOLTAGE RANGE**: | | 13VDC – 32VDC |
| **RELATIVE HUMIDITY**: | | 0 – 95% (non-condensing) |
| **`ACTIVE' OR `STANDBY' CURRENT, MAX.**: | | 500µA |
| **LINE SIZES** | **AMERICAN WIRE GAUGE (AWG)** | 14 AWG, max.<br>18 AWG, min. |

## Details for Ordering

| MODEL OR TYPE | PART NUMBER | PRODUCT |
|---|---|---|
| XTRI-M | S54370-B4-A1 | `Class X' Mini Input, Intelligent Device Interface Module (with built-in isolator) |
| DPU | 500-033260 | Device Programmer / Test Unit |



SIEMENS

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**SIEMENS**

**Data Sheet**
Fire Safety Products

# Notification Appliances

**AS & AH –** Audible Horn | Strobe / Audible Horn Appliances **Application:** Indoor / Outdoor


AS-MC-CW


AS-MC-R

AH-R

AH-W

## Product Overview

- Fast installation with In / Out screw terminals using #12 to #18 AWG wires
- Synchronization can be done via the Siemens 50-point, 252-point and 504-point fire alarm control panels (FACPs), as well as with:
  - FireFinder® XLS and MXL® FACPs
  - PAD-3 or PAD-4™ NAC Extenders with built-in sync protocol
  - Siemens Dual Sync (DSC) modules
- Selectable Continuous Horn or Temporal (Code 3)
- Wall mounts are available with field-selectable Candela settings: 15/30/75/110cd or 135/185cd
- Ceiling-mount models are available with field-selectable Candela settings: 15/30/75/95cd or 115/177cd (multi-Candela ceiling models)
- Three (3) field-selectable dBA settings of 90/95/99 dBA Anechoic in both tones
- Weatherproof wall-mount models are available with field-selectable Candela settings: 135/185cd
- Weatherproof ceiling-mount models are available with field-selectable Candela settings: 115/177cd
- ®UL Listed & ULC Listed;
  FM (#3150) and CSFM Approved (#7125-0067:0247 –> Fire Alarm Devices For The Hearing Impaired)
- ADA / NFPA / UFC / ANSI compliant

## Specifications

- Notification appliances are Siemens Series 'AS' Audible Horn | Strobe appliances and Series 'AH' Audible Horn appliances or approved equals
- Series 'AS' Audible Horn | Strobes are listed for ®UL Standard 1971 (Emergency Devices for the Hearing-Impaired for Indoor Fire Protection Service)
- Series 'AH' Audible Horns are ®UL Listed under Standard 464 (Fire Protective Signaling)
- All inputs are compatible with standard reverse polarity supervision of circuit wiring by the Siemens Fire Alarm Control Panel (FACP)
- The audible portion of each appliance has a minimum of three (3) field-selectable settings for dBA Anechoic levels, as well as a choice of continuous or temporal (Code 3) audible outputs
- The strobe portion of each appliance produces a flash rate of one (1) flash-per-second over the Regulated Input Voltage Range, and incorporate a Xenon flashtube enclosed in a rugged Lexan® lens

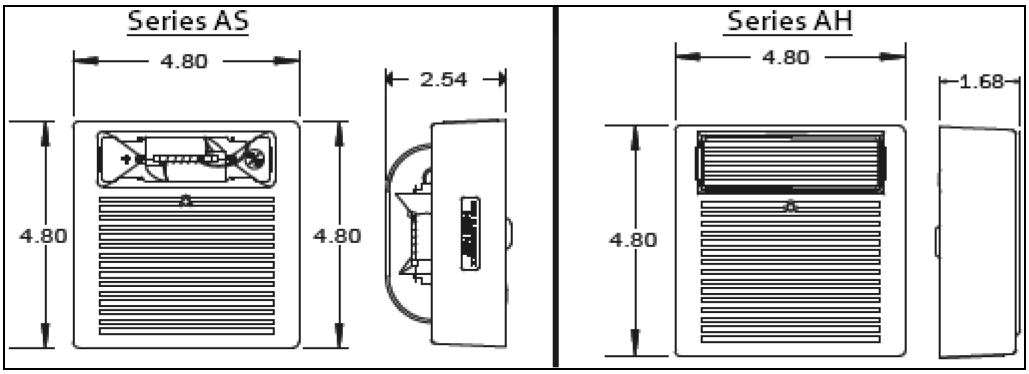


**SIEMENS** Industry, Inc.
Building Technologies Division

## Specifications – (continued)

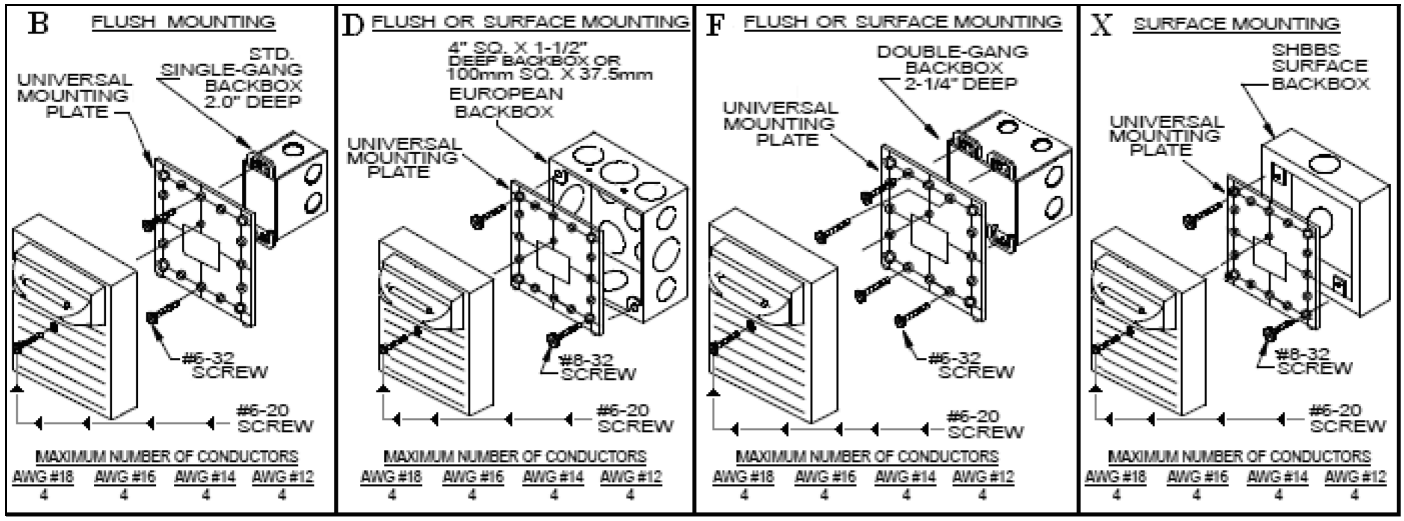
- Series 'AS' Horn | Strobe appliances are of low current design
- Strobe intensity (where Multi-Candela appliances are specified) is easily controlled by field-selectable settings, and is rated per ®UL Standard 1971 for:
  - 15/30/75/110cd
  - 135/185cd
- When synchronization is required, Series 'AS' horn | strobe appliances are compatible with the Siemens 50-point, 252-point and 504-point fire alarm control panels (FACPs), as well as with:
  - FireFinder® XLS and MXL® FACPs
  - PAD-3 or PAD-4™ NAC Extenders with built-in sync protocol
  - Siemens DSC modules
- The strobes will not drift out of synchronization at any time during operation
- The strobes will revert to a non-synchronized flash-rate, if the sync module or Power Supply should fail to operate (i.e. – contacts remain closed)
- The appliance is also designed so that the audible signal may be silenced while maintaining strobe activation when used with Siemens synchronization
- The Series 'AS' Horn | Strobe and Series 'AH' Horn appliances incorporate a Patented Universal Mounting Plate that allow mounting to a single-gang, double-gang, 4-inch (10.2 cm.) square, Siemens SHBBS-Series surface backbox
- All notification appliances are listed for Special Applications:
  - Strobes are designed to flash at 1-flash-per-second minimum over their "Regulated Input Voltage Range"
  - **Note:** NFPA-72 specifies a flash rate of 1-to-2 flashes per second, and ADA Guidelines specify a flash rate of 1-to-3 flashes per second
  - All Candela ratings represent minimum-effective Strobe intensity, based on ®UL Standard 1971

## Mounting Diagram




**(Shown In Inches)** **(Shown In Inches)**

### Mounting Options



# Technical Data

## AS-MC Series: Wall Mount

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Hi dBA Setting*

| Input Voltage | | 15cd | 30cd | 75cd | 110cd |
|---|---|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.094 | 0.133 | 0.212 | 0.283 |
| FWR | 16.0 – 33.0VRMS | 0.134 | 0.191 | 0.307 | 0.405 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Med dBA Setting*

| Input Voltage | | 15cd | 30cd | 75cd | 110cd |
|---|---|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.079 | 0.117 | 0.202 | 0.269 |
| FWR | 16.0 – 33.0VRMS | 0.119 | 0.183 | 0.292 | 0.397 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Low dBA Setting*

| Input Voltage | | 15cd | 30cd | 75cd | 110cd |
|---|---|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.073 | 0.112 | 0.193 | 0.260 |
| FWR | 16.0 – 33.0VRMS | 0.112 | 0.176 | 0.287 | 0.393 |

## AS-MC-C Series: Ceiling Mount

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Hi dBA Setting*

| Input Voltage | | 15cd | 30cd | 75cd | 95cd |
|---|---|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.101 | 0.147 | 0.235 | 0.303 |
| FWR | 16.0 – 33.0VRMS | 0.144 | 0.202 | 0.324 | 0.424 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Med dBA Setting*

| Input Voltage | | 15cd | 30cd | 75cd | 95cd |
|---|---|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.085 | 0.130 | 0.213 | 0.285 |
| FWR | 16.0 – 33.0VRMS | 0.132 | 0.185 | 0.312 | 0.414 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Low dBA Setting*

| Input Voltage | | 15cd | 30cd | 75cd | 95cd |
|---|---|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.079 | 0.120 | 0.210 | 0.279 |
| FWR | 16.0 – 33.0VRMS | 0.122 | 0.180 | 0.308 | 0.409 |

## AS-HMC Series: Wall and Ceiling Mount

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Hi dBA Setting*

| Input Voltage | | 115cd | 135cd | 177cd | 185cd |
|---|---|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.356 | 0.356 | 0.488 | 0.488 |
| FWR | 16.0 – 33.0VRMS | 0.499 | 0.499 | 0.705 | 0.705 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Med dBA Setting*

| Input Voltage | | 115cd | 135cd | 177cd | 185cd |
|---|---|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.361 | 0.361 | 0.493 | 0.493 |
| FWR | 16.0 – 33.0VRMS | 0.509 | 0.509 | 0.716 | 0.716 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Low dBA Setting*

| Input Voltage | | 115cd | 135cd | 177cd | 185cd |
|---|---|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.356 | 0.356 | 0.499 | 0.499 |
| FWR | 16.0 – 33.0VRMS | 0.488 | 0.488 | 0.705 | 0.705 |

## AS-HMC-C Series, Weatherproof: Ceiling Mount

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Hi dBA Setting*

| Input Voltage | | 115cd | 177cd |
|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.546 | 0.742 |
| FWR | 16.0 – 33.0VRMS | 0.546 | 0.742 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Med dBA Setting*

| Input Voltage | | 115cd | 177cd |
|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.509 | 0.716 |
| FWR | 16.0 – 33.0VRMS | 0.509 | 0.716 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Low dBA Setting*

| Input Voltage | | 115cd | 177cd |
|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.488 | 0.705 |
| FWR | 16.0 – 33.0VRMS | 0.488 | 0.705 |

## AS-HMC Series, Weatherproof: Wall Mount

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Hi dBA Setting*

| Input Voltage | | 135cd | 185cd |
|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.356 | 0.488 |
| FWR | 16.0 – 33.0VRMS | 0.499 | 0.705 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Med dBA Setting*

| Input Voltage | | 135cd | 185cd |
|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.361 | 0.493 |
| FWR | 16.0 – 33.0VRMS | 0.509 | 0.716 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Low dBA Setting*

| Input Voltage | | 135cd | 185cd |
|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.356 | 0.499 |
| FWR | 16.0 – 33.0VRMS | 0.488 | 0.705 |

## AS-75 Series, Weatherproof: Wall & Ceiling Mount

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Hi dBA Setting*

| Input Voltage | | 30cd / 180cd (per ®UL1971) | 115cd (per ®UL1638) |
|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.178 | 0.178 |
| FWR | 16.0 – 33.0VRMS | 0.249 | 0.249 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Med dBA Setting*

| Input Voltage | | 30cd / 180cd (per ®UL1971) | 115cd (per ®UL1638) |
|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.164 | 0.164 |
| FWR | 16.0 – 33.0VRMS | 0.239 | 0.239 |

*Current Ratings (AMPs)*
*MAXIMUM RMS Current – with Low dBA Setting*

| Input Voltage | | 30cd / 180cd (per ®UL1971) | 115cd (per ®UL1638) |
|---|---|---|---|
| DC | 16.0 – 33.0VDC | 0.159 | 0.159 |
| FWR | 16.0 – 33.0VRMS | 0.233 | 0.233 |

# Technical Data

## AH Series: Wall-only Mount

| ®UL Current Ratings (AMPs) | | Average Current | | |
|---|---|---|---|---|
| Volume Levels | | Low | Medium | High |
| DC | 16.0 – 33.0VDC | 0.021 | 0.043 | 0.080 |
| FWR | 16.0 – 33.0VRMS | 0.041 | 0.051 | 0.090 |

## AH Series: Wall-only Mount

| ®ULC Current Ratings (AMPs) | Average Current | | |
|---|---|---|---|
| Volume Levels | Low | Medium | High |
| 20.0 VDC | 0.014 | 0.020 | 0.035 |
| 24.0 VDC | 0.017 | 0.025 | 0.050 |
| 31.0 VDC | 0.021 | 0.030 | 0.065 |

## AH Series

| Description | ®UL / ®ULC dBA Sound Output | | | | | |
|---|---|---|---|---|---|---|
| | Reverberant [Per ®UL464 @ 10 Ft.] | | | Anechoic [Per ®ULC-S525-99] | | |
| | Volume Levels | 16VDC | 24VDC | 33VDC | 20VDC | 24VDC | 31VDC |
| Continuous Horn | Low | 80 | 83 | 86 | 88 | 90 | 92 |
| | Medium | 85 | 88 | 91 | 90 | 95 | 97 |
| | High | 88 | 91 | 93 | 92 | 97 | 99 |
| Code 3 Horn or March Time** | Low | 75 | 79 | 82 | 88 | 90 | 92 |
| | Medium | 80 | 84 | 86 | 90 | 95 | 97 |
| | High | 84 | 87 | 90 | 92 | 97 | 99 |

** *Available in sync mode only*

## AH Series

| ®ULC Directional Characteristics |
|---|
| **-3 dBA**: 48 degrees left, 41 degrees right |
| **-6 dBA**: 50 degrees left, 58 degrees right |

**Note:** These notification appliances are ®UL Listed as "Special Application". They are intended to be used only with Siemens notification appliances.

## AS Weatherproof Series

| ®UL / ®ULC Models and Ratings | | | | | |
|---|---|---|---|---|---|
| Model* | Operating Voltage (Special Application) Per ®UL 1638, ®UL1971 and ®UL464 (VDC/VRMS) | Voltage Range Per CAN/®ULC-S525-99/ S526-02 (VDC/VRMS) | ®UL Rated Strobe Candela (cd) | | ®ULC Rated Light Output (cd) |
| | | | At –40°C, per ®UL1638 | ®UL1971 | |
| AS-75-R-WP | 16.0 – 33.0 | 20.0 – 33.0 | 115 | 30 / 180 * | 30 |
| AS-75-CR-WP | 16.0 – 33.0 | ~ | 115 | 30 / 180 * | ~ |
| AS-HMC-C-WP* | 16.0 – 33.0 | ~ | 50 / 75 | 115 / 177 | ~ |
| AS-HMC-WP* | 16.0 – 33.0 | ~ | 65 / 90 | 135 / 185 | ~ |

* Available in red or white.

## AS-MC and AS-HMC Series

| ®UL Listed Ratings | | |
|---|---|---|
| Model* | Operating Voltage (Special Application) Per ®UL 1971 (VDC / VRMS) | Strobe Candela (cd) |
| AS-HMC | 16.0 - 33.0 | 135 / 185 |
| AS-MC | 16.0 - 33.0 | 15/30/75/110 |
| AS-MC-C | 16.0 - 33.0 | 15/30/75/95 |

| dBA Sound Output | | | | |
|---|---|---|---|---|
| Description | Volume | Reverberant Per ®UL 464 | | |
| | | 16.0 VDC | 24.0 VDC | 33.0 VDC |
| Continuous Horn | Low | 80 | 83 | 86 |
| | Medium | 85 | 88 | 91 |
| | High | 88 | 91 | 93 |
| Code 3 Horn (or March Time)** | Low | 75 | 79 | 82 |
| | Medium | 80 | 84 | 86 |
| | High | 84 | 87 | 90 |

** Available only in sync mode.

**Notes:**
1. Strobe will produce 1 flash-per-second over the Input Voltage range.
2. This strobe/horn model meets the required light distribution patterns defined in ®UL 1971.
3. This model is ®UL Listed for indoor use with a temperature range of +32°F to +120°F (0°C to +49°C) and maximum humidity of 93% + 2% RH.

   The effect of shipping and storage temperatures will not adversely affect the performance of the appliance when it is stored in the original cartons, and is not subjected to either misuse or improper handling of shipment.

## Details for Ordering – (Including Mounting Options & Agency Approvals)

**Agency Approvals**

| Model | Part Number | Wall Mount | Ceiling Mount | Description | Mounting Options* | UL | ULC | FM | CSFM |
|---|---|---|---|---|---|---|---|---|---|
| AS-MC-R | 500-636010 | YES | – | AS Horn \| Strobe: Multi-Candela, Red | A,B,D,E,F,G,J,N,R,X | ✓ | ✓ | ✓ | ✓ |
| AS-MC-W | 500-636011 | YES | – | AS Horn \| Strobe: Multi-Candela, White | A,B,D,E,F,G,J,N,R,X | ✓ | ✓ | ✓ | ✓ |
| AS-HMC-R | 500-636012 | YES | – | AS Horn \| Strobe: **Hi** Multi-Candela, Red | A,B,D,E,F,G,J,N,R,X | ✓ | ✓ | ✓ | ✓ |
| AS-HMC-W | 500-636013 | YES | – | AS Horn \| Strobe: **Hi** Multi-Candela, White | A,B,D,E,F,G,J,N,R,X | ✓ | ✓ | ✓ | ✓ |
| AS-MC-CR | 500-636006 | – | YES | AS Horn \| Strobe: Multi-Candela Ceiling, Red | A,B,D,E,F,G,J,N,R,X | ✓ | ✓ | ✓ | ✓ |
| AS-MC-CW | 500-636007 | – | YES | AS Horn \| Strobe: Multi-Candela Ceiling, White | A,B,D,E,F,G,J,N,R,X | ✓ | ✓ | ✓ | ✓ |
| AS-HMC-CR | 500-636008 | – | YES | AS Horn \| Strobe: **Hi** Multi-Candela Ceiling, Red | A,B,D,E,F,G,J,N,R,X | ✓ | ✓ | ✓ | ✓ |
| AS-HMC-CW | 500-636009 | – | YES | AS Horn \| Strobe: **Hi** Multi-Candela Ceiling, White | A,B,D,E,F,G,J,N,R,X | ✓ | ✓ | ✓ | ✓ |
| AS-HMC-CR-WP | 500-636181 | – | YES | AS Horn \| Strobe: **Hi** Multi-Candela Ceiling Weatherproof, Red | I, GG, HH | ✓ | ✓ | – | ✓ |
| AS-HMC-CW-WP | 500-636182 | – | YES | AS Horn \| Strobe: **Hi** Multi-Candela Ceiling Weatherproof, White | I, GG, HH | ✓ | ✓ | – | ✓ |
| AS-HMC-R-WP | 500-636183 | YES | – | AS Horn \| Strobe: **Hi** Multi-Candela Wall Weatherproof, Red | I, GG, HH | ✓ | ✓ | – | ✓ |
| AS-HMC-W-WP | 500-636184 | YES | – | AS Horn \| Strobe: **Hi** Multi-Candela Wall Weatherproof, White | I, GG, HH | ✓ | ✓ | – | ✓ |
| AS-75-R-WP | 500-636016 | YES | – | AS Horn \| Strobe: 75CD Weatherproof, Red | I, GG, HH | ✓ | ✓ | ✓ | ✓ |
| AS-75-CR-WP | 500-636015 | – | YES | AS Horn \| Strobe: 75CD Ceiling Weatherproof, Red | I, GG, HH | ✓ | ✓ | ✓ | ✓ |
| AH-R | 500-636003 | YES | YES | AH Horn, Red | A,B,D,E,F,G,J,N,R,X | ✓ | ✓ | ✓ | ✓ |
| AH-W | 500-636004 | YES | YES | AH Horn, White | A,B,D,E,F,G,J,N,R,X | ✓ | ✓ | ✓ | ✓ |
| AH-R-WP | 500-636005 | YES | YES | AH Horn: Weatherproof, Red | K, GG, HH | ✓ | ✓ | ✓ | ✓ |

**NOTE:** There are no regulatory restrictions in mounting Siemens Series '**AH**' Horn-only Appliances to either wall or ceiling applications.

However, Siemens Series '**AS**' Horn | Strobe Appliances are regulatory-specific *to the* mounting options described above, based upon the appearance of **FIRE**, text shown on the sides of certain Siemens Series '**AS**' faceplates.

*= Refer to data sheet #: 2585 for detailed mounting options

Agency listed / approved => ✓

**Notes:**

1. Models AS-75-WP and AS-75-R-WP do not provide a 75cd setting.
2. The Listed Candela ratings are as follows:
   - 115cd, per ®UL1638, outdoor
   - 30cd, per ®UL1971, indoor
     - The indoor usage is also rated 180cd when measured directly on axis

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

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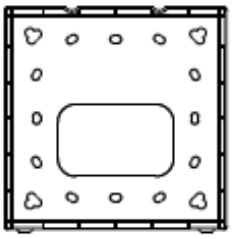
# Notification Appliances

## Mounting Options

### Mounting Diagrams | Mounting Matrixes | Mounting Notes

## ARCHITECT AND ENGINEER SPECIFICATIONS

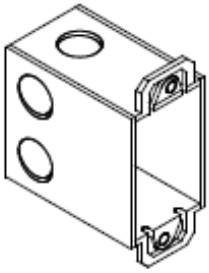
### (A) UNIVERSAL MOUNTING PLATE



"AS" Mounting
(Item included with AS series devices)

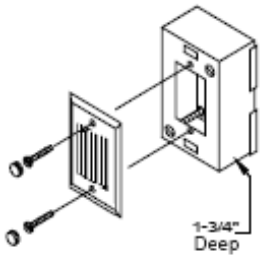
Used with Series
AH, AS

### (B) SINGLE-GANG, FLUSH (BO)



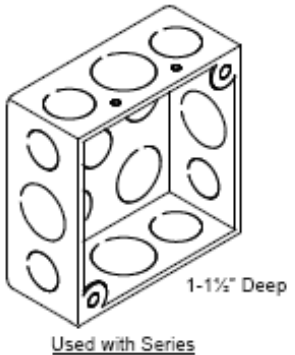
Used with Series
AH, AS, MH, NH, NS, ST, ZH, ZR

### (C) SINGLE-GANG, SURFACE (BO)



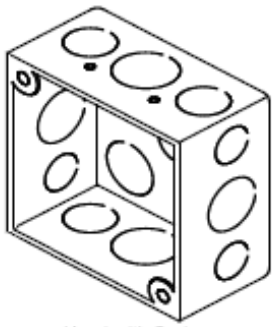

Used with Series
MH

### (D) 4" SQUARE, FLUSH (BO)



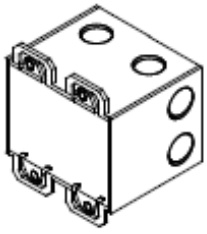

Used with Series
AH, AS, B6, B10, HS, MBDC, MH115, MTH NH, NS, SETSF, SET-ULC, ST, ZH, ZR

### (E) 4" SQUARE, DEEP, FLUSH (BO)



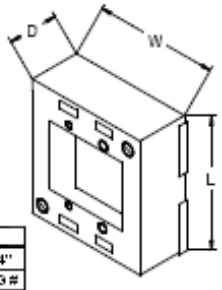
Used with Series
AH, AS, B6, B10, HS, LFS, MBDC, MH115, MTH, NH, NS, SEH, SEFH, SETSF, SET-ULC, ST, ZH, ZR

### (F) DOUBLE-GANG, FLUSH (BO)



Used with Series
AH, AS, HS, MTH, NH, ST, ZH, ZR

### (G) DOUBLE-GANG, SURFACE (BO)



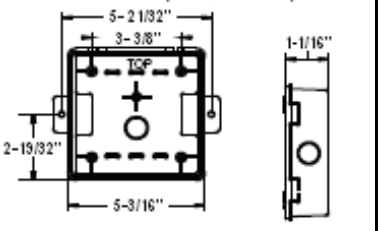

| L | W |
|---|---|
| 4-3/4" | 4-3/4" |
| D. | GANG # |
| 1-3/4" | 2 |

Used with Series
AH, AS, NH, NS, ST

### (I) WPBBS

ORDER CODE - RED: 500-636137

Plastic backbox for surface mounting AS series weatherproof, outdoor products.

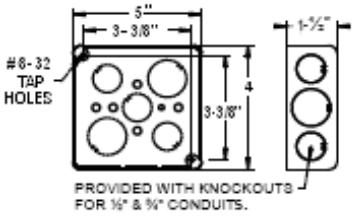



Used with Series
AS (Weatherproof)

### (J) BBS BACKBOX

ORDER CODE - RED: 500-636110

Standard steel backbox with knockouts for interior surface mounting, concealed conduit mounting or semi-flush applications.

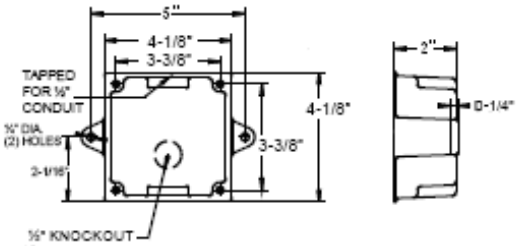



Used with Series
AH, AS, B6, B10, DSC, MBDC, MH115, MTH-15-115, NH, ST

### (K) WBBS WEATHER RESISTANT BACKBOX

ORDER CODES - RED: 500-636129
WHITE: 500-636131

Sturdy die cast housing, threaded conduit hole and and knockout for outdoor applications.

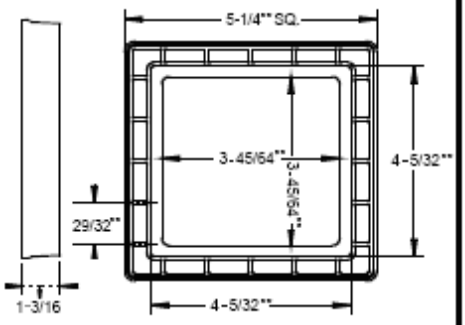



Used with Series
AH, B6, B10, MBDC, MH115, MTH-15-115, SETSF

## Mounting Options – (continued)

### (L) ISPS2 SURFACE ADAPTER

ORDER CODES – WHITE: 500-636195
RED: 500-636196

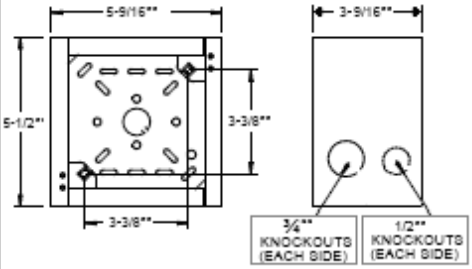



Used with Series
HS, MTH, SET

### (P) SBBS BACKBOX

ORDER CODES – RED: 500-636119,
WHITE: 500-636120

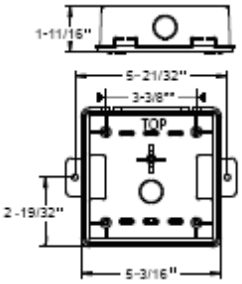
For surface mounting speakers, chimes, and electronic applications.




Used with Series
B6. B10. CH, DSC, HS, MBDC, MTH, NH, NS, SEF, SET, SETFL, ST

### (T) WPSBBS

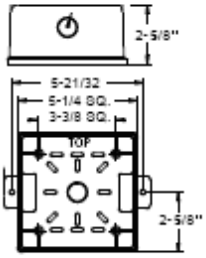
ORDER CODES – RED: 500-636139,
WHITE: 500-636140




Used with Series
ST-WP

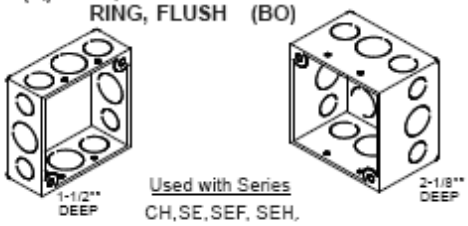
### (M) MT-SUR-BOX BACKBOX

ORDER CODES – RED: 500-693168
WHITE: 500-636118



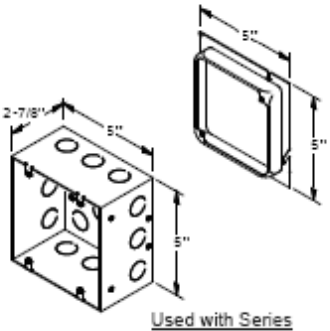

Used with Series
HS, SET
(MTH, MTWP: For surface mounting on MT products.)

### (Q) 4" SQUARE DEEP W/ EXTENSION RING, FLUSH (BO)




Used with Series
CH, SE, SEF, SEH, SETFL, SET

### (U) 5" SQUARE BACKBOX W/ EXTENSION RING, FLUSH (BO)

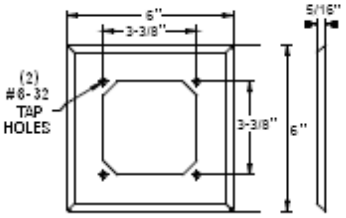



Used with Series
CH, SE, SEF, SET

### (R) SFPS SEMI-FLUSH PLATE

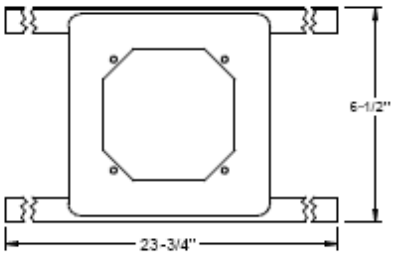
ORDER CODES – RED: 500-636124,
WHITE: 500-636125

Stamped aluminum surface wall plate, which mounts behind the basic unit, and serves to cover recessed backboxes in semi-flush mounting applications.




Used with Series
AH, AS, B6, B10, MBDC, MH115. MTH, NH, NS, SEF, SEH, SEFH, SETSF, ST

### (V) SSB-4 CEILING SUPPORT BRIDGE



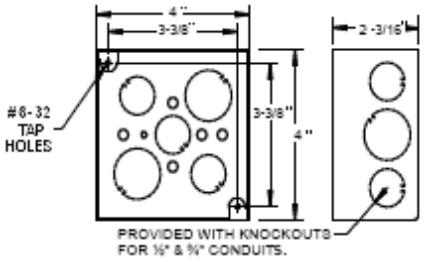

Provisions for (4) J-nuts #8-32 lb 3-⅜"
Square Material: Steel

Used with Series
SE

### (N) DBBS BACKBOX

ORDER CODE – RED: 500-636111

Standard steel backbox provided with knockouts for interior surface mounting, concealed conduit mounting or semi-flush applications.

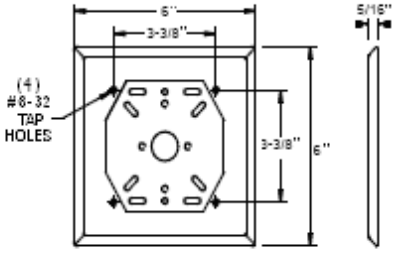



Used with Series
AH, AS, B6, B10, HS, MBDC, MH115, MTH, NH, SETSF, ST

### (S) APS ADAPTER PLATE

ORDER CODE – RED: 500-636109

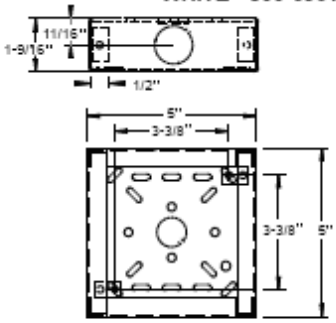
Stamped aluminum adapter plate designed for applications where semi-flush installations cannot be used. The plate can be mounted to standard octagon or round backboxes single or double gang boxes or plaster rings. The backbox and basic unit are then fastened to the plate. This type of mounting is referred to as 'concealed conduit installation.'




Used with Series
B6, B10, MBDC

### (X) SHBBS SQUARE, SURFACE BACKBOX

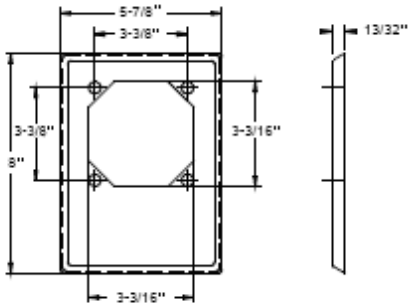
ORDER CODES – RED: 500-636126,
WHITE: 500-636127




Used with Series
AH, AS, DSC, NH, ST, ZH, ZR

### (O) RETROFIT PLATE

ORDER CODES – [PENDING]

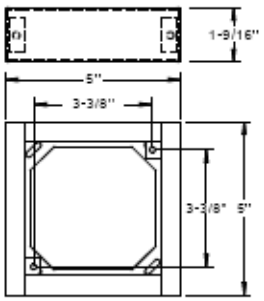



Used with Series
B6, B10, MBDC, MTH, NH, SE

## Mounting Options – (continued)

**(Y) SERS SQUARE SEMI-FLUSH EXTENSION RING**

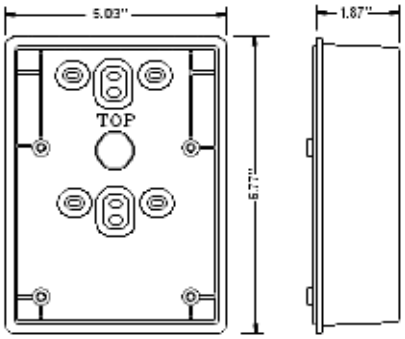
ORDER CODES – RED: 500-636122, WHITE: 500-636123




Used with Series
CH, SE, SEF, SET

**(BB) SPSSB**

ORDER CODES – RED: 500-636114, WHITE: 500-636115

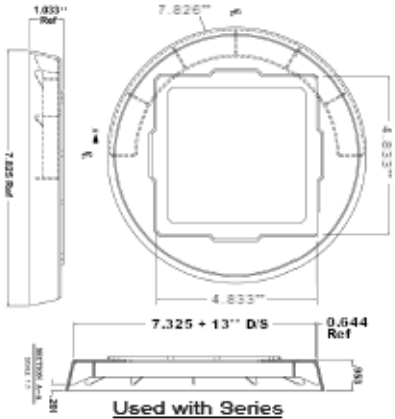



Used with Series
SEH, SEFH

Used with Series
SE-MC/HMC
(wall mount speaker/strobe)

**(EE) SPEXT EXTENSION RING**

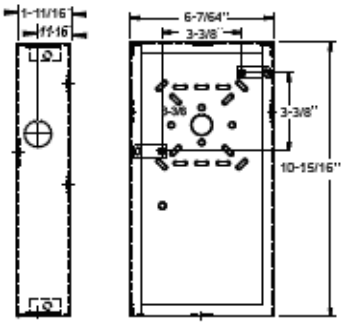
ORDER CODES – RED: 500-636116, WHITE: 500-636117




Used with Series
SE-MC-C (Ceiling Mount Strobe)

**(Z) SBL2S BACKBOX**

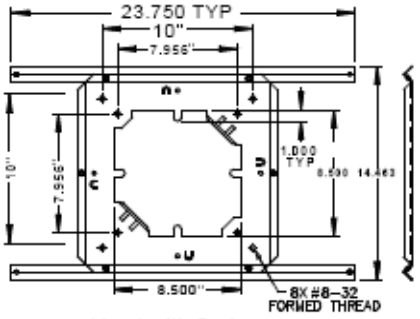
ORDER CODE – RED: 500-636121




Used with Series
ST

**(CC) SB-W 8" CEILING SUPPORT BRIDGE**

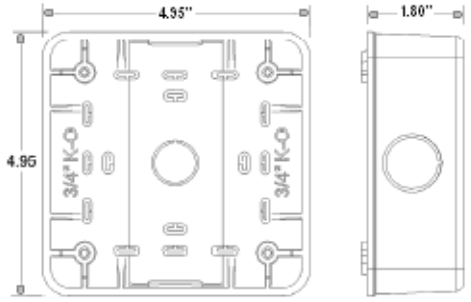
ORDER CODE – WHITE: 500-634882




Used with Series
S 8" Ceiling Speakers

**(FF) ZB**

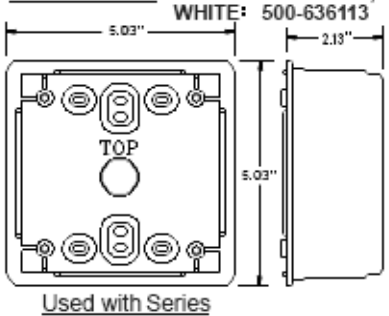
ORDER CODES – RED: 500-636193, WHITE: 500-636194




Used with Series
Z

**(AA) SPSB BACKBOX**

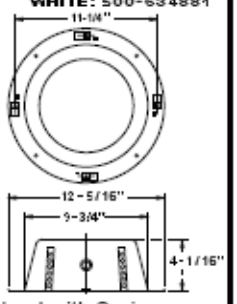
ORDER CODES – RED: 500-636112, WHITE: 500-636113




Used with Series
SE (Speakers), SEFH

**(DD) SE-1 8" CEILING SPKR BACKBOX**

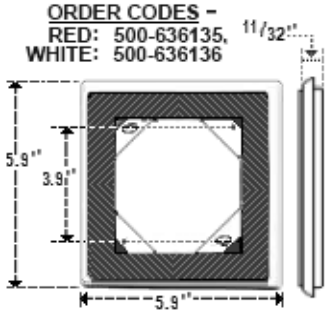
ORDER CODE – WHITE: 500-634881




Used with Series
S 8" Ceiling Speakers

**(GG) WFPS PLATE**

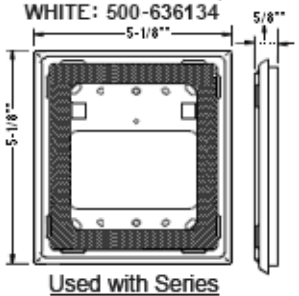
ORDER CODES – RED: 500-636135, WHITE: 500-636136




Used with Series
AS-WP, MTH-WP, ST-WP, SET-WP

**(HH) WFPAS PLATE**

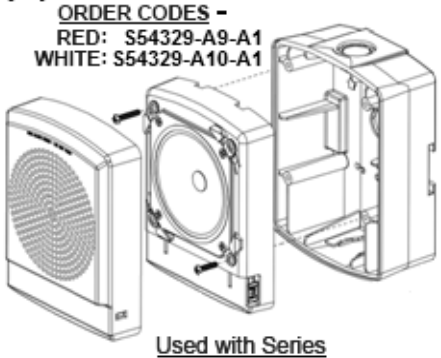
ORDER CODES – RED: 500-636133, WHITE: 500-636134




Used with Series
AS-WP

**(II) LFSBB BACKBOX**

ORDER CODES –
RED: S54329-A9-A1
WHITE: S54329-A10-A1



Used with Series
LFS

# Mounting Matrix
## (*by Series*)

| | Series ST-WP (1), AS-WP (2), AH-WP (3), MTH and SET-WP (4) | Series AS / AH | Series B6 | Series B10 | Series CH | Series HS | Series LFS | Series MBDC | Series MH | Series MH115 | Series MTH | Series NH / NS | Series S-HQ | Series SE-C | Series SE | Series SEH | Series SEF | Series SEFH | Series SET / SET (Wall Mount) | Series SET-C | Series SETSF | Series SETSF-B | Series ST | Series ST-MC-RETRO | Series ZH / ZR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **(A)** Universal Mounting Plate (included with **AS** series devices) | | ✓ | | | | | | | | | | | | | | | ✓ | | | | | | | | |
| **(B)** 1-GANG –*x*– 3-1/2" Deep - Flush (BO) | | ✓ | | | | | | | ✓ | | | ✓ | | | | | | | | | | | ✓ | | ✓ |
| **(C)** 1-GANG –*x*– 1-3/4" Deep - Surface (BO) | | | | | | | | | ✓ | | | | | | | | | | | | | | | | |
| **(D)** 4" –*x*– 4" –*x*– 1.5" Deep - Flush (BO) | | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | | | | | | | | | | ✓ | ✓ | ✓ |
| **(E)** 4" –*x*– 4" –*x*– 2.125" Deep - Flush (BO) | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ |
| **(F)** 2-GANG –*x*– 3.5" Deep - Flush (BO) | | ✓ | | | | ✓ | | | | | ✓ | ✓ | | | | | | | | | | | ✓ | | ✓ |
| **(G)** 2-GANG –*x*– 1.75" Deep - Surface (BO) | | ✓ | | | | | | | | | | ✓ | | | | | | | | | | | ✓ | | |
| **(I)** WPBBS-R Weatherproof Backbox for AS-WP | 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| **(J)** BBS Surface (SP) | | | ✓ | ✓ | | | | ✓ | | ✓ | | ✓ | | | | | | | | | | | ✓ | | |
| **(K)** WBBS Weatherproof (SP) | 3 | ✓ | ✓ | ✓ | | | | ✓ | | ✓ | | | | | | | | | | | ✓ | | | | |
| **(L)** ISP-S2 Surface Adapter | | | | | | | | | | | ✓ | | | | | | | | | | | | | | |
| **(M)** MT-SUR-BOX Surface & Weatherproof (SP) | 4 | | | | | ✓ | | | | | ✓ | | | | | | | | ✓ | | | | | | |
| **(N)** DBBS Surface (SP) | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | | | | | | | | ✓ | | ✓ | | |
| **(O)** Retrofit Plate | | | ✓ | ✓ | | | | | | | ✓ | | | | | ✓ | | | | | | | | | |
| **(P)** SBBS Surface (SP) | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | |
| **(Q)** 4" –*x*– 4" –*x*– 2.125" Box [with 1.5" Extension Ring- Flush (BO) ] | | | | | ✓ | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | |
| **(R)** SFPS Semi-Flush Plate (SP) | | ✓ | ✓ | ✓ | | | | ✓ | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | |
| **(S)** APS Adapter Plate (SP) | | | ✓ | ✓ | | | | ✓ | | | | | | | | | | | ✓ | | ✓ | | | | |
| **(T)** WPSBBS-R Weatherproof Backbox for ST-WP | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| **(U)** 5" Square Backbox w/ Extension Ring, Flush (BO) | W | | | | ✓ | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | | | |
| **(V)** SSB-4 Ceiling Support Bridge | E | | | | ✓ | | | | | | | | | ✓ | | ✓ | | | | | | | | | |
| **(W)** 4.6875" –*x*– 4.6785" –*x*– 2.125" Deep Surface (BO) | A | | | | | | | | | | | | | | | | | | | | | | | | |
| **(X)** SHBBS (SP) Shallow Surface | T | ✓ | | ✓ | | | | | | | | ✓ | | | | | | | | | | | ✓ | | ✓ |
| **(Y)** SERS Semi-Flush Extension Ring (Retrofit Appl.) | H | | | | ✓ | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| **(Z)** SBLS-2 Surface (SP) | E | | ✓ | ✓ | | | | | | | | | | | | | | | | | | ✓ | | ✓ | |
| **(AA)** SPSB Backbox for SE Speaker | R | | | | | | | | | | | | | | ✓ | ✓ | | | | | | | | | |
| **(BB)** SPSSB Backbox for `SEH' \| `SEFH' Hi-Fidelity Speakers and `SE' Series Speaker / Strobes | P | | | | | | | | | | | | | | ✓ | ✓ | | ✓ | | | | | | | |
| **(CC)** SP Ceiling Support Bridge | R | | | | | | | | | | | | ✓ | | | | | | | | | | | | |
| **(DD)** Ceiling Speaker Backbox | O | | | | | | | | | | | | ✓ | | | | | | | | | | | | |
| **(EE)** SPEXT Extension Ring | O | | | | | | | | | | | | | ✓ | | | | | | | | | | | |
| **(FF)** ZB | F | | | | | | | | | | | | | | | | | | | | | | | | ✓ |
| **(GG)** WFPS Plate | 1, 2, 3, 4 | | | | | | | | | | ✓ | | | | | | | | | | | | ✓ | | |
| **(HH)** WFPAS Plate | | ✓ | | | | | | | | | | | | | | | | | | | | | | | |
| **(I I)** LFSBB Backbox | | | | | | | ✓ | | | | | | | | | | | | | | | | | | |
| **Data Sheet Number** | – | 2578 | 2571 | 2571 | 2572 | 2576 | 2578 | 2570 | 2575 | 2574 | 2579 and 6634 | 2577 | 2586 | 2580 | 2580 | 2589 | 2582 | 2590 | 2581 | 2581 | 2583 | 2583 | 2573 | 2570 | 2584 |

## Mounting Notes

⚠**Caution:** The mounting options figures show the maximum number of field wires (conductors) that can enter the back box used with each mounting option.

If these limits are exceeded, there may be insufficient space in the back box to accommodate the field wires and stresses from the wires could damage the product.

Although the limits shown for each mounting option comply with the National Electrical code (NEC), Siemens recommends use of the largest backbox option and the use of approved field wires whenever possible to provide additional wiring room for easy installation and minimum stress on the product from wiring.

⚠**Caution:** Check that the installed product will have sufficient clearance and wiring room prior to installing back-boxes and conduit, especially if sheathed multi-conductor cable or 3/4- inch conduit fittings are used.

1. Mounting hardware for each mounting option is supplied.
2. Conduit entrances to the back box should be selected to provide sufficient wiring clearance for the installed product.
3. When extension rings are required, conduit should enter through the back box, not the extension ring. Use Steel City #53151 (1-1/2" deep) or #53171 (2-1/8" deep) extension rings (as noted in the mounting options) or equal with the same cut-out area.
4. When terminating field wires, do not use more lead length than required. Excess lead length could result in insufficient wiring space for the appliance.
5. Use care and proper techniques to position the field wires in the back box so that they use minimum space and produce minimum stress on the product. This is especially important for stiff, heavy gauge wires and wires with thick insulation or sheathing.
6. Do not pass additional wires (used for other than the appliance) through the back box "unless the back box is of a sufficient size to permit additional wiring as described in NEC 314.16 (B)". Such additional wires could result in insufficient wiring space for the appliance.

**Note:** Due to continuous development of our products, specifications and offerings are subject to change without notice, in accordance with Siemens Industry, Inc. standard terms and conditions.

### Back Box Mounting

**Siemens Horizontal, Wall-Mounted Strobe Appliances NFPA-72 (2007)**

**7.5.4.1*** — Wall-mounted appliances shall be mounted such that the entire lens is not less than 80 inches (203 cm.) and not greater than 96 inches (244 cm.) above the finished floor or at the mounting height specified using the performance-based alternative **7.5.4.5**.

**7.5.4.2** — Where low ceiling heights do not permit mounting at a minimum of 80 inches (203 cm.), visible appliances shall be mounted within 6 inches (15 cm.) of the ceiling.

The room size covered by a strobe of a given value shall be reduced by twice the difference between the minimum mounting height of 80 inches (203 cm.) and the actual, lower mounting height.

## Back box Mounting Options*

| | Series `AS'\| `AH' Audible Strobe | | Series ST-MC-RETRO (Flush and Surface Retrofit Plate) | | Series 'NS' Horn Strobe | | Series `ST' and `Z' Strobe | | Series `MTH' Multi-tone | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 80 IN. | 6 IN. | 80 IN. | 6 IN. | 80 IN. | 6 IN. | 80 IN. | 6 IN. | 80 IN. | 6 IN. |
| **(B)** 1-Gang –x– 2" Deep - Flush (BO) | 77 1/2" | 8 1/2" | | 78 3/8" | 7 5/8" | 79 1/8" | 6 7/8" | | | |
| **(D)** 4" –*x*– 4" –*x*–1.5" Deep - Flush (BO) | 77" | 9" | 83 15/16" | 77 7/8 | 1/8" | 78 5/8" | 7 3/8" | 79 15/16" | 6 1/16" | 6 1/16" |
| **(E)** 4" –*x*– 4" –*x*– 2.13" Deep - Flush (BO) | 77" | 9" | 83 15/16" | 77 7/8" | 8 1/8" | 78 5/8" | 7 3/8" | 79 15/16" | 6 1/16" | 6 1/16" |
| **(F)** 2-Gang –*x*– 3.5" Deep - Flush (BO) | 77 1/2" | 8 1/2" | | 78 3/8" | 7 5/8" | 79 1/8" | 6 7/8" | 80 9/16" | 5 7/16" | 5 7/16" |
| **(G)** 2-Gang –*x*– 1.75" Deep - Surface (BO) | 77 1/2" | 8 1/2" | | 78 3/8" | 7 5/8" | 79 1/8" | 6 7/8" | 80 9/16" | 5 7/16" | 5 7/16" |
| **(M)** MT-SUR-BOX Surface and Weatherproof (SP) | | | | | | | | 79 3/8" | 6 5/8" | 6 5/8" |
| **(P)** SBBS Surface (SP) | | | | | | | | 79 1/4" | 6 3/4" | 6 3/4" |
| **(U)** 5"–square Back box with Extension Ring, Flush (BO) | 69 1/2" | 8 1/2" | 83 7/16" | 77 3/8" | 7 5/8" | 78 1/8" | 6 7/8" | 79 7/16" | 5 9/16" | 5 9/16" |
| **(X)** SHBBS (SP) Shallow Surface | 76 1/2" | 9 1/2" | | 77 3/8" | 8 5/8" | 78 1/8" | 7 7/8" | | | |
| **(Z)** SBL2S Surface (SP) | | | 78" | | | | | | | |
| **(FF)** ZB | | | | | | 78 1/8" | 7 7/8" | | | |

* Measured from Bottom of Back box

## More Back box Mounting Options*

| | Series 'CH' Chime Strobe | | Series 'SET-V' Speaker Strobe | | Series 'SEF-C' Speaker Strobe | | Series 'SET-C' Speaker Strobe | |
|---|---|---|---|---|---|---|---|---|
| | 80 IN. | 6 IN. | 80 IN. | 6 IN. | 80 IN. | 6 IN. | 80 IN. | 6 IN. |
| **(P)** SBB Surface (SP) | 77 3/4" | 8 1/2" | 79 3/16" | 6 13/16" | 77 3/4" | 8 1/4" | 77 3/4" | 8 1/4" |
| **(Q)** 4" x 4" x 2.125" Box w/ 1.5" Extension Ring - Flush (BO) | 77 1/2" | 7 1/2" | 80 | 6" | 78 1/2" | 7 1/2" | 78 1/2" | 7 1/2" |
| **(U)** 5" Square Back box with Extension Ring - Flush (BO) | 78" | 7" | 79 1/2" | 5 1/2" | 78" | 7" | 78" | 7" |
| **(X)** SHBB (SP) Shallow Surface | – – | – – | – – | – – | – – | – – | – – | – – |
| **(Y)** 4" x 4" x 1.5" Box w/ 1.5" Extension-Ring Plate - Flush (BO) | 78 1/2" | 7 1/2" | 80" | 6" | – – | – – | – – | – – |

* Measured from Bottom of Back box

**Notes:** (BO) = By Others (SP) = s Product

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

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**(Rev. 9)**

**SIEMENS**

**Data Sheet**
Fire Safety Products

# Notification Appliances

## SET – Speakers and Speaker Strobes

**Application: Indoor / Outdoor**


**SET-MC-CW**
**Speaker Strobe**

**SET-CW**
**Speaker**


**SET-MC-R**
**Speaker Strobe**

**SET-W**
**Speaker**

## Product Overview

- Fast installation with In / Out screw terminals using #12 to #18 AWG wires
- High-efficiency design for maximum output at minimum wattage across a frequency range of 400 to 4000Hz
- Field-selectable taps for 25 or 70 VRMS operation from 1/8 Watt to 8 Watts
- Strobes can be synchronized using the Siemens DSC sync modules; the Siemens 50-point, 252-point and 504-point fire alarm control panels (FACPs), as well as with:
  - FireFinder® XLS and MXL® FACPs
  - PAD-3 or PAD-4Ł NAC Extenders with built-in sync protocol
- Ceiling-mount models are available with field-selectable Candela settings of 15/30/75/95cd or 115/177cd
- Wall-mount models are available with field-selectable Candela settings of 15/30/75/110cd or 135/185cd (multi-Candela models)
- Weatherproof (single-candela) models are available with the following ratings:
  - 30/180cd (ceiling or wall mount), per ®UL 1971
    115cd (ceiling or wall mount), per ®UL 1638
  - 177cd (ceiling-only mount) per ®UL 1971
    75cd (ceiling-only mount), per ®UL 1638
  - 185cd (wall-only mount), per ®UL 1971
    90cd (wall-only mount), per ®UL 1638
- ®UL Listed;
  FM, CSFM and NYCFD Approved
  - CSFM (#7125-0067:0254 –> Fire Alarm Devices For The Hearing Impaired)
  - CSFM (#7125-0067:0255 –> Speakers)
- ADA / NFPA compliant

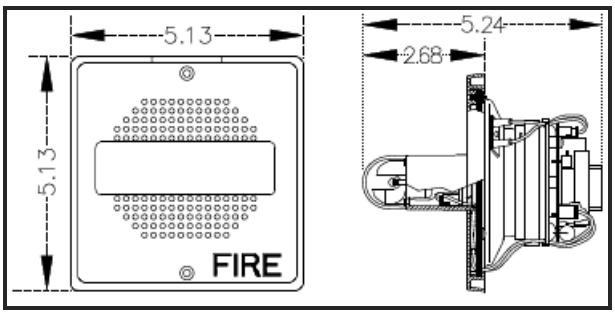
## Specifications

- Speaker appliances are Siemens Series `SET' Speakers and speaker / strobe appliances are Siemens Series `SET' Speaker Strobes or approved equals
  - speakers are ®UL Listed under Standard 1480 for Fire Protective Service
  - speaker-strobes are ®UL Listed under Standard 1971 for Emergency Devices for the Hearing-Impaired
  - speaker-strobes are ®UL Listed under Standard 1638 for Weatherproof Devices
- Selector switch for selecting the candela is tamper-resistant

## Specifications – (continued)

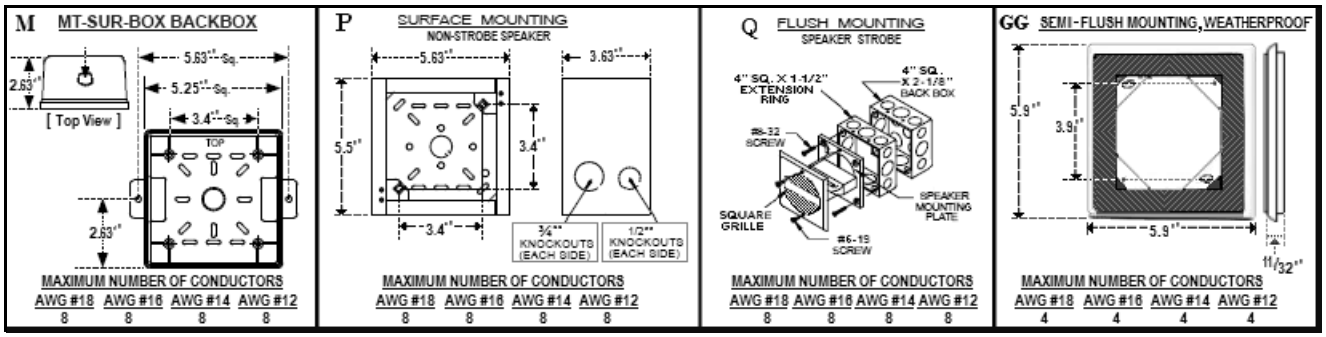
- Strobe portion of each appliance produces a flash rate of one (1) flash per second, and has a Xenon flashtube enclosed in a rugged Lexan® lens
- Strobe are of low-current design
- The strobes do not drift out of synchronization at any time during operation
- Speaker and speaker / strobe appliances are designed for indoor and outdoor surface or flush mount
- Weatherproof (single-candela) models are available with the following ratings:
  - 30/180cd (ceiling or wall mount), per ℓUL 1971
    115cd (ceiling or wall mount), per ℓUL 1638
  - 177cd (ceiling-only mount) per ℓUL 1971
    75cd (ceiling-only mount), per ℓUL 1638
  - 185cd (wall-only mount), per ℓUL 1971
    90cd (wall-only mount), per ℓUL 1638
- Ceiling-mount models are available with field-selectable Candela settings of 15/30/75/95cd or 115/177cd
- Wall-mount models are available with field-selectable Candela settings of 15/30/75/110cd or 135/185cd
- All speaker models have a listed sound output of up to 93dB at 10 feet, and a listed frequency response of 400 to 4000Hz
- All inputs employ terminals that accept #12 to #18 AWG wire sizes
- Speaker and speaker / strobe incorporate a speaker-mounting plate with a grille cover, which is secured with two screws for a level finish
  - Grille cover mounts to standard electrical hardware requiring no additional trim plate or adapter
- The finish of the Series SET speakers and speakers strobes is available in either white or red
- All speaker and speaker / strobe appliances are listed for Special Applications:
  - Strobes are designed to flash at 1-flash-per-second minimum over their "Regulated Input Voltage Range"
    - **Note:** NFPA-72 specifies a flash rate of 1-to-2 flashes per second, and ADA Guidelines specify a flash rate of 1-to-3 flashes per second
  - All candela ratings represent minimum-effective Strobe intensity, based on ℓUL Standard 1971

## Mounting Diagram




**(Shown In Inches)**

### Mounting Options



# Technical Data

## SET-MC and SET-HMC Series Strobes: Wall Mount

| *Current Ratings (AMPs)* *MAXIMUM RMS Current* | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Input Voltage** | | **15cd** | **30cd** | **75cd** | **110cd** | **135cd** | **185cd** |
| DC | 16.0 – 33.0VDC | 0.064 | 0.098 | 0.175 | 0.233 | 0.318 | 0.445 |
| FWR | 16.0 – 33.0VRMS | 0.108 | 0.164 | 0.268 | 0.368 | 0.482 | 0.684 |

## SET-MC-C and SET-HMC-C Series Strobes: Ceiling

| *Current Ratings (AMPs)* *MAXIMUM RMS Current* | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Input Voltage** | | **15cd** | **30cd** | **75cd** | **95cd** | **115cd** | **177cd** |
| DC | 16.0 – 33.0VDC | 0.069 | 0.111 | 0.200 | 0.264 | 0.318 | 0.445 |
| FWR | 16.0 – 33.0VRMS | 0.117 | 0.180 | 0.297 | 0.398 | 0.482 | 0.684 |

## SET-177, SET-185 Series Strobes: Weatherproof

| *Operating Voltage (Special Application)* | | | | | |
|---|---|---|---|---|---|
| **Input Voltage** | | **75cd** (Per ⓁUL1638) | **177cd** (Per ⓁUL1971) | **90cd** (Per ⓁUL1638) | **185cd** (Per ⓁUL1971) |
| DC | 16.0 – 33.0VDC | 0.445 | | 0.445 | |
| FWR | 16.0 – 33.0VRMS | 0.684 | | 0.684 | |

## SET-S17 Series Strobes: Weatherproof

| *Operating Voltage (Special Application)* | | | |
|---|---|---|---|
| **Input Voltage** | | **115cd** (Per ⓁUL1638) | **30/180cd** (Per ⓁUL1971) |
| DC | 16.0 – 33.0VDC | 0.146 | |
| FWR | 16.0 – 33.0VRMS | 0.235 | |

## SET Series Strobes, Weatherproof

| *ⓁUL Models and Ratings* | | | |
|---|---|---|---|
| **Model** | **Operating Voltage (Special Application) Per ⓁUL1971 (VDC / VRMS)** | **ⓁUL Rated Strobe Candela (cd)** At -40°C, per ⓁUL1638 | **ⓁUL1971** |
| SET-S17-CW-WP* | 16.0 – 33.0 | 115 | 30 / 180 ** |
| SET-S17-WP* | 16.0 – 33.0 | 115 | 30 / 180 ** |
| SET-177-C-WP* | 16.0 – 33.0 | 75 | 177 |
| SET-185-WP* | 16.0 – 33.0 | 90 | 185 |

* Available in red or white.

180cd is on Axis only **

## SET | SET-MC | SET-HMC Series: Speaker Output

| | | *ⓁUL Listed Models and Ratings* | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Model*** | **Operating Voltage** (VRMS) | **dBA at 10 feet** (Rated Watts) | | | | | | |
| | | **1/8** | **1/4** | **1/2** | **1** | **2** | **4** | **8** |
| SET | 25/70 | 75 | 78 | 81 | 84 | 87 | 90 | 93 |
| SET-C | 25/70 | 75 | 78 | 81 | 84 | 87 | 90 | 93 |
| SET-HMC | 25/70 | 75 | 78 | 81 | 84 | 87 | 90 | 93 |

* All models available in red or white.

## SET Series: Speaker Output, Weatherproof

| | | *ⓁUL Listed Models and Ratings* | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Model*** | **Operating Voltage** (VRMS) | **dBA at 10 feet** (Rated Watts) | | | | | | |
| | | **1/8** | **1/4** | **1/2** | **1** | **2** | **4** | **8** |
| SET-S17-CW-WP* | 25/70 | 77 | 80 | 83 | 86 | 88 | 91 | 93 |
| SET-S17-WP* | 25/70 | 77 | 80 | 83 | 86 | 88 | 91 | 93 |
| SET-177-C-WP* | 25/70 | 77 | 80 | 83 | 86 | 88 | 91 | 93 |
| SET-185-WP* | 25/70 | 77 | 80 | 83 | 86 | 88 | 91 | 93 |

* All models available in red or white.

**Notes:**

1. Models are ⓁUL Listed for indoor use with a temperature range of +32°F to +120°F (0°C to +49°C) and maximum humidity of 85% RH. The effect of shipping and storage temperatures will not adversely affect the performance of the appliance when it is stored in the original cartons and is not subjected to misuse or abuse
2. The maximum supervision voltage is 33 Volts DC
3. Frequency range of speakers is 400 – 4000Hz

The effect of shipping and storage temperatures will not adversely affect the performance of the appliance when it is stored in the original cartons, and is not subjected to either misuse or improper handling of shipment.

| *Speaker Voltage & Wattage Connection Chart* | | |
|---|---|---|
| Position | 25V | 70V |
| A | 8 | --- |
| B | 4 | --- |
| C | 2 | --- |
| D | 1 | 8 |
| E | 1/2 | 4 |
| F | 1/4 | 2 |
| G | 1/8 | 1 |
| H | ----- | 1/2 |
| G | ----- | 1/4 |
| H | ----- | 1/8 |

## Details for Ordering – (Including Mounting Options & Agency Approvals)

| Model | Part Number | Description | Mounting Options* | Agency Approvals UL | FM | CSFM |
|---|---|---|---|---|---|---|
| SET-MC-R | 500-636051 | SET Series: Multi-Candela, Red | L,P,Q,U,Y | ✓ | ✓ | ✓ |
| SET-MC-W | 500-636052 | SET Series: Multi-Candela, White | L,P,Q,U,Y | ✓ | ✓ | ✓ |
| SET-MC-CW | 500-636063 | SET Series: Multi-Candela Ceiling, White | Q,U,Y | ✓ | ✓ | ✓ |
| SET-MC-CR | 500-636062 | SET Series: Multi-Candela Ceiling, Red | Q,U,Y | ✓ | ✓ | ✓ |
| SET-HMC-R | 500-636053 | SET Series: Hi Multi-Candela, Red | L,P,Q,U,Y | ✓ | ✓ | ✓ |
| SET-HMC-W | 500-636054 | SET Series: Hi Multi-Candela, White | L,P,Q,U,Y | ✓ | ✓ | ✓ |
| SET-HMC-CW | 500-636065 | SET Series: Hi Multi-Candela Ceiling, White | Q,U,Y | ✓ | ✓ | ✓ |
| SET-HMC-CR | 500-636064 | SET Series: Hi Multi-Candela Ceiling, Red | Q,U,Y | ✓ | ✓ | ✓ |
| SET-R | 500-636055 | SET Series: Speaker, Red | P,Q,U,Y | ✓ | ✓ | ✓ |
| SET-W | 500-636056 | SET Series: Speaker, White | P,Q,U,Y | ✓ | ✓ | ✓ |
| SET-CW | 500-636067 | SET Series: Ceiling Speaker, White | Q,U | ✓ | ✓ | ✓ |
| SET-S17-R-WP | 500-636058 | SET Series: 15/75 Strobe Weatherproof, Red | M \| M+**WPS-KIT** \| GG | ✓ | | ✓ |
| SET-S17-W-WP | 500-636059 | SET Series: 15/75 Strobe Wall Weatherproof, White | M \| M+**WPS-KIT** \| GG | ✓ | | ✓ |
| SET-S17-CW-WP | 500-636057 | SET Series: 15/75 Strobe Ceiling Weatherproof, White | M \| M+**WPS-KIT** \| GG | ✓ | | ✓ |
| SET-177-CR-WP | 500-636189 | SET Series: Hi Candela Ceiling Weatherproof, Red | M \| M+**WPS-KIT** \| GG | ✓ | | ✓ |
| SET-177-CW-WP | 500-636190 | SET Series: Hi Candela Ceiling Weatherproof, White | M \| M+**WPS-KIT** \| GG | ✓ | | ✓ |
| SET-185-R-WP | 500-636191 | SET Series: Hi Candela Wall Weatherproof, Red | M \| M+**WPS-KIT** \| GG | ✓ | | ✓ |
| SET-185-W-WP | 500-636192 | SET Series: Hi Candela Wall Weatherproof, White | M \| M+**WPS-KIT** \| GG | ✓ | | ✓ |

**Note:** A Siemens **WPS-KIT** is comprised of one (1) hardware package; two (2) red plugs; two (2) white plugs, and one (1) gasket.

✓: Agency Listed / approved

*: Refer to data sheet #2585 for detailed mounting options

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SIEMENS

# Notification Appliances

## 'SL2' Series – Horns | Strobes | Horn-Strobes

## Applications: Indoor, Ceiling-Only

### Architect & Engineer Specifications

- ☐ Sophisticated series of notification appliances that meets fire-industry codes and regulations for commercial-building applications
- ☐ Compatible with the Siemens 50-point, 252-point and 504-point addressable fire alarm control panels (FACPs), and with:
  - Siemens Modular FACPs
  - Siemens PAD-series of NAC extenders
  - FireFinder® XLS / XLSV FACPs
  - Siemens dual-sync control (DSC) modules
- ☐ Innovative LED strobe technology provides an energy-efficient means for a significantly reduced current draw
  - Capability to have existing Xenon and new LED strobes in the same field-of-view
  - Fewer power supplies required, smaller wire gage, reduced wire runs
- ☐ Straightforward installation coupled with compact, modern design
  - No visible mounting screws
  - Manual (index finger) slide-setting adjustor
  - Six (6) field-selectable settings in one (1) device: 15cd | 30cd | 75cd | 110cd | 150cd | 177cd
- ☐ Faceplates ship in four (4) distinctive types:
  - 'FIRE' | 'ALERT' | 'AGENT' | 'NO LETTERING'
- ☐ Two (2) audible settings in each notification appliance
  - Temporal or steady horn output
  - High or Low setting
- ☐ UL1638 | UL1971 | UL464 Listed
- ☐ ULC-S525-16 | ULC- S526-16 Listed
- ☐ FM & CSFM Approved

### Product Overview

Formed as the `SL2'-series, Siemens is now offering horns, strobes, and horn-strobes with LED based strobes to its notification-appliances portfolio. With the `SL2'-series, Siemens offers a full range of products with low and high candela settings that makes these sophisticated notification appliances ideal for new installs and retrofit applications.

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

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

In a single device, the `SL2'-series can provide alarm-signaling tones for dual applications. All strobe models in the series feature multi-Candela settings (15cd | 30cd | 75cd | 110cd | 150cd | 177cd ) on a single appliance.

Additionally, there are three (3) modes of operation for the audible portion of these notification appliances:

- Continuous(Code 3 field selectable)
- T3 (Code 3 Sync)
- T3/T4 (Sync Selectable w/DSC)

The `SL2'-series of horns, strobes and horn-strobes devices are produced in a sleek, modern design. Its single-gang form factor provides high-quality energy efficiency in an aesthetically pleasing, low-profile design that is consistent to the look of the interior composition of the building application.

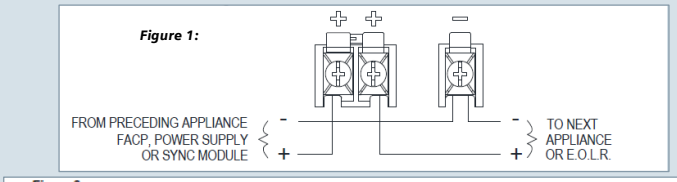
The Model `SL2HC'-series horn appliances work in either 12V or 24VDC, whereas the Series `SL2SC' and `SL2HSC' strobe and horn-strobe devices are specifically designed for 24V operation. The `SL2'-series is apt for indoor, ceiling-mount applications.

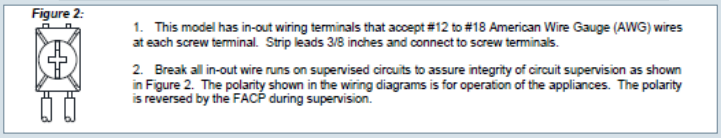
**Model SL2HCW-N**
**Horn**


**Model SL2SCR-F**
**Strobe**


**Model SL2HSCW-F**
**Horn-Strobe**

## Wiring Diagrams




**SL2HC, SL2SC , SL2HSC**
**Horns | Strobes | Horn-Strobes**

## Specifications

In terms of composition and functionality, Models `SL2HC'-series, `SL2SC'-series, and `SL2HSC'-series of horns, strobes and horn-strobe appliances provide added value to the installer for the types of applications for operation:

- Compact | sleek | low-profile design
- Comprehensive feature list
- Convenient mounting options
- Easy-to-adjust selection-slider switch for Candela settings
  - No tools required for setting changes
  - Multi-level settings: 15cd | 30cd | 75cd | 110cd | 150cd | 177cd
- High and Low audible outputs
- Reduced current draw, via cutting-edge LED technology

The LED portions of the Siemens `SL2'-series of strobes and horn-strobes meet the 20 millisecond light-pulse-duration requirements of the 2016 edition of NFPA 72. By meeting this latest requirement, existing Xenon as well as the new LED-technology devices can now be in the same field-of-view.

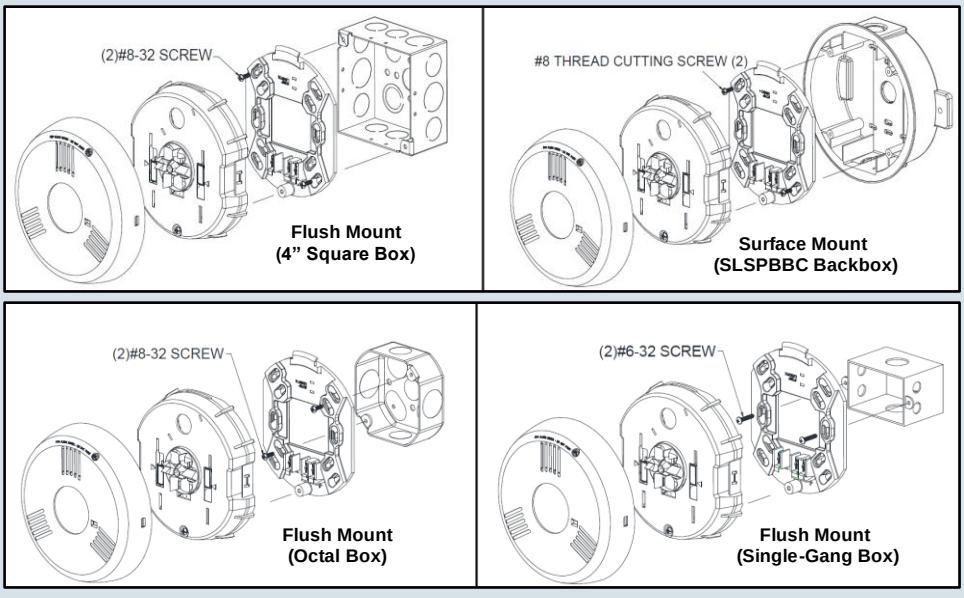
The Horns, Strobes and Horn-Strobes in this Siemens `SL2'-series of notification appliances have received UL / ULC Listed status by attaining compatible testing standards with all Siemens fire-alarm control panels (FACPs) and accessories that have been determined to be aligned with existing Siemens strobe-based appliances.

This would include the following existing model-types: ST | SE | SEH | SET | S-HQ | STH | AS | CH | HS | MTH | SL and Z- Series notification appliances. The regulatory listing also includes the capability for installing the Siemens `SL2'-series LED-based strobes in the same notification zone and field-of-view with any existing Siemens Notification Appliance Xenon-based strobes.

All types of the 'SL2'-Series horns, strobes and horn-strobe appliances are UL / ULC Listed for indoor use.

Horn: UL464, ULC-S525-16 | Strobe: UL1638, UL1971, CAN/ULC-S526-16

## Mounting Diagrams




**Mounting Options Include**:

- Model SLSPBBC to any single-gang backbox
- 4" (10.2 cm.) square backboxes

## Technical Data

### Horn-Strobes | Output Current Draw

| Model SL2HSC' Series:^ | Current Ratings (Amps @ 24V) HIGH dB | | | | | |
|---|---|---|---|---|---|---|
| Setting | 15cd | 30cd | 75cd | 110cd | 150cd | 177cd |
| CONT / T3 / T3/T4 | 0.037 | 0.046 | 0.077 | 0.109 | 0.146 | 0.208 |

| Model SL2HSC' Series:^ | Current Ratings (Amps @ 24V) LOW dB | | | | | |
|---|---|---|---|---|---|---|
| Setting | 15cd | 30cd | 75cd | 110cd | 150cd | 177cd |
| CONT / T3 / T3/T4 | 0.030 | 0.039 | 0.070 | 0.102 | 0.139 | 0.201 |

### Horn-Only | Output Current Draw

| Model 'SL2HC' Series:^ | Current Ratings (Amps) RMS Current @ 24VDC | | |
|---|---|---|---|
| | Regulated Voltage Range | High | Low |
| | 12VDC (8-17.5V) | 0.025 | 0.020 |
| | 24VDC (16-33V) | 0.028 | 0.021 |

### Strobe-Only | Output Current Draw

| Model SL2SC' Series:^ | Current Ratings (Amps) | | | | | |
|---|---|---|---|---|---|---|
| | Regulated Voltage Range | | | | | |
| | 16.0 – 33.0 VDC | | | 16.0 – 33.0 VRMS | | |
| | 15cd | 30cd | 75cd | 110cd | 150cd | 177cd |
| | 0.022 | 0.030 | 0.060 | 0.086 | 0.125 | 0.185 |

### Horn | Output Ratings (UL)

| Model SL2HC'– and – SL2HSC' Series:^ | UL Sound Output Ratings (dBA) Reverberant per UL464 @ 10 feet | | |
|---|---|---|---|
| | Setting | SL2HC @ 12VDC | SL2HC & SL2HSC @ 24VDC |
| | CONT \| T3\| \| T3/T4 | High dBA | High dBA |
| | | 80 | 80 |
| | CONT \| T3\| T3/T4 | Low dBA | Low dBA |
| | | 78 | 78 |

### Horn | Output Ratings (ULC)

| Model SL2HC'– and – SL2HSC' Series:^ | ULC Sound Output Ratings (dBA) Anechoic per ULCS525-16 @ 3.05 meters | | |
|---|---|---|---|
| | Setting | SL2HC @ 12VDC | SL2HC & SL2HSC @ 24VDC |
| | CONT \| T3\| \| T3/T4 | High dBA | High dBA |
| | | 85 | 91 |
| | CONT \| T3\| \| T3/T4 | Low dBA | Low dBA |
| | | 79 | 86 |

*^ RMS current ratings are per UL maximum RMS method.*
*UL max current rating is the maximum RMS current within the listed voltage range (16 - 33V for 24V*
*^ For audible appliances, the max current is usually at the maximum listed voltage (16 - 33V for 24V units)*
*^ For unfiltered FWR ratings, see installation instructions*

**GENERAL NOTES:**

1. Strobes are designed to flash at 1-flash-per-second minimum over their " Regulated Voltage Range."
2. NFPA-72 specifies a flash rate of 1-to-2 flashes-per-second.
3. All Candela ratings represent minimum effective Strobe intensity based on UL 1971.

## Technical Data

### General Properties

| | MODEL `SL2'-series |
|---|---|
| OPERATING TEMPERATURE: | - 32°F (0°C) to 122°F (50°C)<br>- for indoor use only |
| RELATIVE HUMIDITY: | 93%, maximum |
| OPERATING VOLTAGE RANGES: | - 12 VDC / VFWR → 8.0 - 17.5 V<br>- 24 VDC / VFWR → 16.0 – 33.0 V<br>(12 VDC for Model SL2HC only) |
| STROBE OUTPUT RATING: | - UL 1638, 1971 \| ULC-S526-16<br>- Field-selectable 15cd \| 30cd \| 75cd \| 110cd \| 150cd \| 177cd Candela outputs |
| STROBE FLASH RATE: | Strobes are designed to flash at one-flash-per-second |
| STROBE SYNCRONIZATION: | - all Siemens Addressable Panels<br>- Siemens PAD-series NAC extenders<br>- Siemens Dual-Sync (DSC) modules, which provide the unique Siemens proprietary synchronization protocol |
| TEMPORAL PATTERN: | - Continuous<br>- Code 3 (1/2 second on, 1/2 second off; then 1/2 second on, 1/2 second off; followed by 1/2 second on, 1-1/2 second off and repeat)<br>NOTES: The Code 3 pattern is specified by ANSI and NFPA 72 for Standard Emergency Evacuation Signaling. |

### Physical Properties

| | MODEL `SL2'-series |
|---|---|
| MATERIAL: | - White-or-red textured, ultraviolet (UV) stabilized, colored impregnated engineered plastic<br>- Exceeds 94V-0 UL flammability rating |
| WEIGHT: | 0.55 Lbs. (0.24 Kg.) |
| LENS TYPE: | LED strobe situated in a rugged Lexan lens |
| DIMENSIONS: | Horns:<br>6.27"(15.9 cm.) x 6.27"(15.9 cm.) x 1.32" (3.35 cm.)<br>Horn-Strobes:<br>6.27"(15.9 cm.) x 6.27"(15.9 cm.) x 1.69" (4.29 cm.) |

### Mounting and Wiring Properties

| | MODEL `SL2'-series |
|---|---|
| INDOOR MOUNTING: | - Ceiling-mount applications<br>- Model SLSPBBC to any Single-Gang Backbox or to 4" (10.2 cm.) Square Box |
| WIRING TYPE: | #12 – #18, American Wire Gauge (AWG) |

## Details for Ordering

| MODEL | PART NUMBER | APPLIANCE TYPE | MOUNTING TYPE | STROBE TYPE | FACEPLATE COLOR | FACEPLATE LETTERING |
|---|---|---|---|---|---|---|
| SL2HCR-N | S54329-F83-A1 | Horn | CEILING | – None – | RED | – No Lettering – |
| SL2HCW-N | S54329-F84-A1 | | CEILING | – None – | WHITE | – No Lettering – |
| SL2HSCR-A | S54329-F87-A1 | Horn-Strobe | CEILING | Clear | RED | AGENT |
| SL2HSCW-A | S54329-F92-A1 | | CEILING | Clear | WHITE | AGENT |
| SL2HSCR-AL | S54329-F88-A1 | Horn-Strobe | CEILING | Clear | RED | ALERT |
| SL2HSCW-AL | S54329-F93-A1 | | CEILING | Clear | WHITE | ALERT |
| SL2HSCR-F | S54329-F89-A1 | Horn-Strobe | CEILING | Clear | RED | FIRE |
| SL2HSCW-F | S54329-F94-A1 | | CEILING | Clear | WHITE | FIRE |
| SL2HSCR-N | S54329-F90-A1 | Horn-Strobe | CEILING | Clear | RED | – No Lettering – |
| SL2HSCW-N | S54329-F95-A1 | | CEILING | Clear | WHITE | – No Lettering – |
| SL2HSCR-FB | S54329-F91-A1 | Horn-Strobe | CEILING | Clear | RED | – Pictogram – |
| SL2HSCW-FB | S54329-F96-A1 | | CEILING | Clear | WHITE | – Pictogram – |
| SL2SCR-ALA | S54329-F182-A1 | Strobe | CEILING | Amber | RED | ALERT |
| SL2SCW-ALA | S54329-F191-A1 | | CEILING | Amber | WHITE | ALERT |
| SL2SCR-NA | S54329-F183-A1 | Strobe | CEILING | Amber | RED | – No Lettering – |
| SL2SCW-NA | S54329-F192-A1 | | CEILING | Amber | WHITE | – No Lettering – |
| SL2SCR-ALB | S54329-F184-A1 | Strobe | CEILING | Blue | RED | ALERT |
| SL2SCW-ALB | S54329-F193-A1 | | CEILING | Blue | WHITE | ALERT |
| SL2SCR-NB | S54329-F185-A1 | Strobe | CEILING | Blue | RED | – No Lettering – |
| SL2SCW-NB | S54329-F194-A1 | | CEILING | Blue | WHITE | – No Lettering – |
| SL2SCR-A | S54329-F186-A1 | Strobe | CEILING | Clear | RED | AGENT |
| SL2SCW-A | S54329-F195-A1 | | CEILING | Clear | WHITE | AGENT |
| SL2SCR-AL | S54329-F187-A1 | Strobe | CEILING | Clear | RED | ALERT |
| SL2SCW-AL | S54329-F196-A1 | | CEILING | Clear | WHITE | ALERT |
| SL2SCR-F | S54329-F188-A1 | Strobe | CEILING | Clear | RED | FIRE |
| SL2SCW-F | S54329-F198-A1 | | CEILING | Clear | WHITE | FIRE |
| SL2SCR-N | S54329-F189-A1 | Strobe | CEILING | Clear | RED | – No Lettering – |
| SL2SCW-N | S54329-F200-A1 | | CEILING | Clear | WHITE | – No Lettering – |
| SL2SCR-FB | S54329-F190-A1 | Strobe | CEILING | Clear | RED | – Pictogram – |
| SL2SCW-FB | S54329-F201-A1 | | CEILING | Clear | WHITE | – Pictogram – |
| SL2SCW-EV | S54329-F197-A1 | Strobe | CEILING | Clear | WHITE | Evacuation |
| SLSPBBCR | S54329-F55-A1 | Backbox | CEILING | – None – | RED | – No Lettering – |
| SLSPBBCW | S54329-F55-A2 | | CEILING | – None – | WHITE | – No Lettering – |



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SIEMENS

# Notification Appliances

## 'SL2' Series – High-Fidelity Speaker | Speaker-Strobes

Applications : Indoor, Wall / Ceiling-Mount

### Architect & Engineer Specifications

- ☐ Sophisticated series of notification appliances that meets fire-industry codes and regulations for commercial-building applications
- ☐ Compatible with the Siemens 50-point, 252-point and 504-point addressable fire alarm control panels (FACPs), and with:
  - Siemens Modular FACPs
  - Siemens PAD-series of NAC extenders
  - FireFinder® XLS / XLSV FACPs
  - Siemens dual-sync control (DSC) modules
- ☐ Innovative LED strobe technology provides an energy-efficient means for a significantly reduced current draw
  - Capability to have existing Xenon and new LED strobes in the same field-of-view
  - Fewer power supplies required, smaller wire gage, reduced wire runs
- ☐ Straightforward installation coupled with compact, modern design
  - No visible mounting screws
  - Manual slide-setting adjustor
  - Six (6) field-selectable settings in one (1) device
- ☐ Wide frequency response:
  - 300 to 8000 Hz for Sleeping Areas
- ☐ High efficiency speakers for maximum audio output at minimum power
- ☐ Faceplates ship in Five (5) distinctive types:
  - "FIRE"|"ALERT"|"EMERGENCY"| "PICTOGRAM" I "NO LETTERING"
- ☐ UL (1971 | 1480) and ULC Listed (ULC-S526 | - S541)
- ☐ FM & CSFM Approved

### Product Overview

Formed as the `SL2'-Series, Siemens is offering a new version of high-fidelity Speakers and Speaker-Strobes to its product line of notification appliances.

The 'SL2SPW' and 'SL2SPSW'- Series Wall-Mount appliances and the 'SL2SPC' and 'SL2SPSC'- Series Ceiling-Mount appliances, offer an additional range of low and high Candela settings that makes these sophisticated notification appliances ideal for easy installation (pre-wired mounting plate) and retrofit applications.

With a vast frequency-response range (300 - 8000 Hertz), the 'SL2'-series speaker and speaker-strobes, feature leading intelligibility, with crisp, clear voice messages and tone signaling ideal for emergency communications, mass notification, voice evacuation and fire alarm.

The Strobes are available with a 'CLEAR' or 'AMBER' lens option The 'AMBER' lens are for Private Mode Emergency General Utility Signaling. These 'AMBER' lens strobe appliances, also comply with the polar distribution requirements in the UL Standard 1971 for Indoor Fire Protection Service and NFPA-72 for Mass Notification Systems.

Strobes can be synchronized using the Siemens DSC sync modules and are compatible with the Siemens 50-point, 252-point and 504-point addressable fire alarm control panels (FACPs), Siemens Modular FACPs, Siemens PAD-series of NAC extenders, FireFinder® XLS / XLSV FACPs per UL requirements.

In a single device, the `SL2'-series can provide alarm-signaling tones for dual applications. All strobe models in the 'SL2'-series feature multi-Candela settings:

- Wall-mount models are available with field-selectable settings of 15cd | 30cd | 75cd | 110cd | 135cd | 185cd
- Ceiling-mount models are available with field-selectable settings of 15cd | 30cd | 75cd | 110cd | 150cd | 177cd

The `SL2'-series notification appliances are specific to indoor, wall-mount or ceiling-mount applications.

**Model SL2SPWW-N**
**Speaker**
**Wall-mount**


**Model SL2SPSWR-F**
**Speaker-Strobe**
**Wall-mount**

**Model SL2SPSCR-N**
**Speaker-Strobe**
**Ceiling-mount**

## Mounting Diagrams

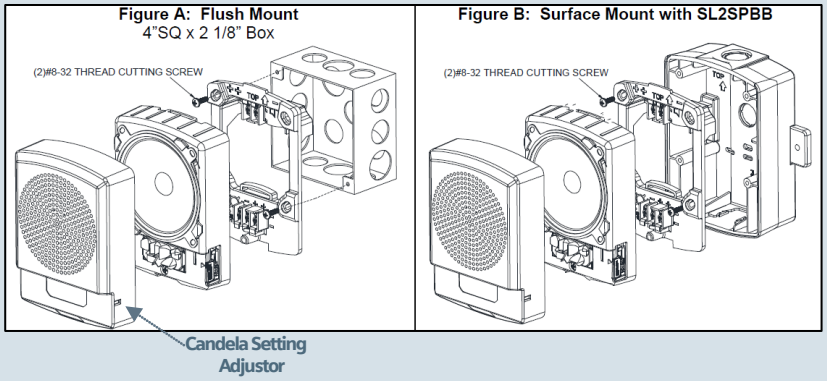
### Wall-Mount Appliances

**Trimplate Dimensions**:

5.25 inches (13.34 cm.) [H]
4.58 inches (11.6 cm.) [W]
1.4 inches (3.6 cm.) [D]

**Mounting Options Include**:

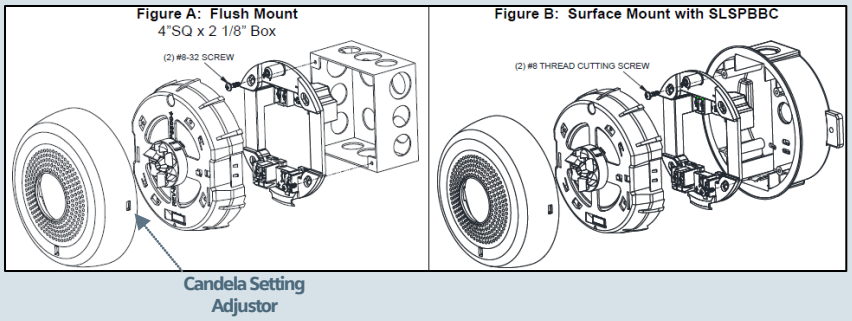
- Model SL2SPBB backboxes or
- 4" (10.2 cm.) square boxes




### Ceiling-Mount Appliances

**Mounting Options Include**:

- Model SLSPBBC backboxes or
- 4" (10.2 cm.) square boxes




## Specifications

In terms of composition and functionality, the 'SL2SPW' and 'SL2SPSW'-series (wall-mount) speakers and speaker-strobes and 'SL2SPC'-series and 'SL2SPSC'-series (ceiling-mount) speakers and speaker-strobes provide added value to the installer, for the types of applications for operation:

- Compact | sleek | low-profile design
- Comprehensive feature list
- Convenient mounting options
- Easy-to-adjust selection-slider switch for multi-level Candela settings (no tools required for setting changes)
  - 15cd | 30cd | 75cd | 110cd | 135cd | 185cd (wall-mount strobes)
  - 15cd | 30cd | 75cd | 110cd | 150cd | 177cd (ceiling-mount strobes)
- High and Low audible outputs
- Reduced current draw, via cutting-edge LED technology

The LED portions of the Siemens `SL2'-series of speakers and speaker-strobes meet the 20-millisecond light-pulse-duration requirements of the 2016 edition of NFPA 72. By meeting this latest requirement, existing Xenon as well as the new LED-technology devices can now be in the same field-of-view. In addition to the launched product line of Siemens `SL2'-series of speaker-strobes, Siemens also offers an existing range of products with low-and-high Candela settings that meet retrofit and new-construction applications.

The speaker and speaker-strobes in this Siemens `SL2'-series of notification appliances have received a comprehensive feature list, including low current draw; dual-voltage (25/70 VRMS) capability; field-selectable taps from 1/8 to 2 Watts (5W 70V); and no tools needed for setting changes. The low-profile design incorporates a pre-wired mounting plate for faster and easier installation. Each model has a built-in level adjustment feature and a snap-on grille cover. All inputs employ IN / OUT wiring terminals for fast installation using #12 to #18 AWG wiring.

The regulatory listing (UL/ULC) also includes the capability for installing the Siemens `SL2'-series speaker-strobes in the same notification zone and field-of-view with any existing Siemens Notification Appliance Xenon-based strobes. In addition, the Siemens 'SL2'-series product line has been UL/ULC listed as compatible with all Fire Alarm Control Panels (FACPs) and accessories that have been determined to be compatible with Siemens ST Strobe based products including the ST | SE | SEH | SET | S-HQ | STH | AS | CH | HS | MTH | SL and Z- Series notification appliances. All types of these high-fidelity speakers and speaker-strobes are UL Listed (for indoor use under Standard 1971,1480,1638), as well as ULC-S541-16 | ULC-S526-16 Listed.

## Electrical Ratings

### Wall-Mount Speaker Output Ratings (UL /ULC)

| Models | Setting | 1/8 Watts | 1/4 Watts | 1/2 Watts | 1 Watts | 2 Watts | 5 Watts |
|---|---|---|---|---|---|---|---|
| | *Reverberant per UL1480 dBA (Watts) @ 10 feet* | | | | | | |
| 'SL2SPW' Series: | 25V | 75 | 79 | 82 | 85 | 87 | --- |
| 'SL2SPSW' Series: | 70V | 75 | 79 | 82 | 85 | --- | 87 |
| | *Anechoic per ULC-S541 dBA (Watts) @ 3.05 meters* | | | | | | |
| 'SL2SPW' Series: | 25V | 75 | 79 | 82 | 85 | 87 | --- |
| 'SL2SPSW' Series: | 70V | 75 | 79 | 82 | 85 | --- | 87 |

### Ceiling-Mount Speaker Output Ratings (UL /ULC)

| Models | Setting | 1/8 Watts | 1/4 Watts | 1/2 Watts | 1 Watts | 2 Watts | 5 Watts |
|---|---|---|---|---|---|---|---|
| | *Reverberant per UL1480 dBA (Watts) @ 10 feet* | | | | | | |
| 'SL2SPC' Series: | 25V | 75 | 79 | 82 | 85 | 87 | --- |
| 'SL2SPSC' Series: | 70V | 75 | 79 | 82 | 85 | --- | 87 |
| | *Anechoic per ULC-S541 dBA (Watts) @ 3.05 meters* | | | | | | |
| 'SL2SPC' Series: | 25V | 75 | 79 | 82 | 85 | 87 | --- |
| 'SL2SPSC' Series: | 70V | 75 | 79 | 82 | 85 | --- | 87 |

### Wall-Mount | Strobe Output Current Draw

| Model | Regulated Voltage Range | 15cd | 30cd | 75cd | 110cd | 135cd | 185cd |
|---|---|---|---|---|---|---|---|
| | *Current Ratings (in Amps)** RMS Current @ 24 Volts DC* | | | | | | |
| 'SL2SPSW' Series:^ | *16.0 – 33.0 VDC* | *0.022* | *0.030* | *0.060* | *0.086* | *0.125* | *0.185* |

** Setting will determine the current draw of the product.

### Ceiling-Mount | Strobe Output Current Draw

| Model | Regulated Voltage Range | 15cd | 30cd | 75cd | 110cd | 150cd | 177cd |
|---|---|---|---|---|---|---|---|
| | *Current Ratings (in Amps)** RMS Current @ 24 Volts DC* | | | | | | |
| 'SL2SPSC' Series:^ | *16.0 – 33.0 VDC* | *0.022* | *0.030* | *0.060* | *0.086* | *0.125* | *0.185* |

** Setting will determine the current draw of the product.

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

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

^ ***For unfiltered FWR ratings, see Installation Instructions***

**GENERAL NOTES:**

1. Strobes are designed to flash at 1-flash-per-second minimum over their "Regulated Voltage Range".
2. NFPA-72 specifies a flash rate of 1-to-2 flashes-per-second.
3. All Candela ratings represent minimum effective Strobe intensity based on UL 1971.

## Technical Data

| GENERAL PROPERTIES (SL2-Series) | |
|---|---|
| **OPERATING TEMPERATURE:** | - 32°F (0°C) to 122°F (50°C)<br>- for indoor applications only |
| **RELATIVE HUMIDITY:** | 93%, maximum |
| **OPERATING VOLTAGE RANGES:** | - 25 / 70 VRMS<br>- field-selectable power taps: 1/8 Watt to 5 Watts |
| **STROBE OUTPUT RATING:** | - UL 1638, UL1971, ULC-S526-16<br>- Field-selectable Candela outputs:<br>[Wall-mount Appliances]<br>15cd \| 30cd \| 75cd \| 110cd \| 135cd \| 185cd<br>[Ceiling-mount Appliances]<br>15cd \| 30cd \| 75cd \| 110cd \| 150cd \| 177cd |
| **STROBE FLASH RATE:** | Strobes are designed to flash at 1-flash-per-second |
| **STROBE SYNCRONIZATION:** | - all Siemens addressable panels<br>- Siemens PAD-series NAC extenders<br>- Siemens dual-sync (DSC) modules, which provide the unique Siemens proprietary synchronization protocol |
| **FREQUENCY RANGE:** | - 300 Hz to 8000 Hz. |

| PHYSICAL PROPERTIES (SL2-Series) | | |
|---|---|---|
| **MATERIAL:** | - White-or-red textured, ultraviolet (UV) stabilized, colored impregnated engineered plastic<br>- Exceeds 94V-0 UL flammability rating | |
| **WEIGHT:** | **Speaker-Strobe:** | 1.54 Lbs. (0.7 Kg.) |
| | **Speaker Backbox:** | 0.44 Lb. (0.2 Kg.) |
| **LENS TYPE:** | LED strobe situated in a rugged Lexan lens | |
| **DIMENSIONS:** | **`SL2SPW' & SL2SPSW' Series**<br>6.35" (15.5 cm.) (H)<br>4.56" (11.6 cm.) (W)<br>1.54" ( 3.9 cm.) (D) | **`SL2SPC' & `SL2SPSC' Series:**<br>6.27" (15.9 cm.) x 6.27" (15.9 cm.) x 2.29" (5.8 cm.) |

| MOUNTING AND WIRING PROPERTIES (SL2-Series) | | |
|---|---|---|
| **INDOOR MOUNTING:** | **Wall-Mount Appliances**<br>Model SL2SPBB backbox or to 4" (10.2 cm.) square box with trim plate and separately ordered mud-ring | **Ceiling-Mount Appliances**<br>Model SLSPBBC backbox or to 4" (10.2 cm.) square box |
| **WIRING TYPE:** | #12 – #18, American Wire Gauge (AWG) | |

## Details for Ordering

### 'SL2SPW' & 'SL2SPSW' Series Appliances

| MODEL | PART NUMBER | HIGH-FIDELITY APPLIANCE TYPE | MOUNTING TYPE | STROBE TYPE | FACEPLATE COLOR | FACEPLATE LETTERING |
|---|---|---|---|---|---|---|
| SL2SPWR-AL | S54329-F148-A1 | Speaker | WALL | – None – | RED | ALERT |
| SL2SPWW-AL | S54329-F151-A1 | | WALL | – None – | WHITE | ALERT |
| SL2SPWR-F | S54329-F149-A1 | Speaker | WALL | – None – | RED | FIRE |
| SL2SPWW-F | S54329-F152-A1 | | WALL | – None – | WHITE | FIRE |
| SL2SPWR-N | S54329-F150-A1 | Speaker | WALL | – None – | RED | – NO LETTERING – |
| SL2SPWW-N | S54329-F153-A1 | | WALL | – None – | WHITE | – NO LETTERING – |
| SL2SPSWR-ALA | S54329-F168-A1 | Speaker-Strobe | WALL | Amber | RED | ALERT |
| SL2SPSWW-ALA | S54329-F175-A1 | | WALL | Amber | WHITE | ALERT |
| SL2SPSWR-NA | S54329-F169-A1 | Speaker-Strobe | WALL | Amber | RED | – NO LETTERING – |
| SL2SPSWW-NA | S54329-F176-A1 | | WALL | Amber | WHITE | – NO LETTERING – |
| SL2SPSWR-AL | S54329-F170-A1 | Speaker-Strobe | WALL | Clear | RED | ALERT |
| SL2SPSWW-AL | S54329-F177-A1 | | WALL | Clear | WHITE | ALERT |
| SL2SPSWR-M | S54329-F171-A1 | Speaker-Strobe | WALL | Clear | RED | EMERGENCY |
| SL2SPSWW-M | S54329-F178-A1 | | WALL | Clear | WHITE | EMERGENCY |
| SL2SPSWR-F | S54329-F172-A1 | Speaker-Strobe | WALL | Clear | RED | FIRE |
| SL2SPSWW-F | S54329-F179-A1 | | WALL | Clear | WHITE | FIRE |
| SL2SPSWR-N | S54329-F173-A1 | Speaker-Strobe | WALL | Clear | RED | – NO LETTERING – |
| SL2SPSWW-N | S54329-F180-A1 | | WALL | Clear | WHITE | – NO LETTERING – |
| SL2SPSWR-FB | S54329-F174-A1 | Speaker-Strobe | WALL | Clear | RED | PICTOGRAM |
| SL2SPWW-FB | S54329-F181-A1 | | WALL | Clear | WHITE | PICTOGRAM |
| SL2SPBB-W | S54329-F223-A1 | Backbox | WALL | None | WHITE | – NO LETTERING – |
| SL2SPBB-R | S54329-F224-A1 | | WALL | None | RED | – NO LETTERING – |

### 'SL2SPC' & 'SL2SPSC' Series Appliances

| MODEL | PART NUMBER | HIGH-FIDELITY APPLIANCE TYPE | MOUNTING TYPE | STROBE TYPE | FACEPLATE COLOR | FACEPLATE LETTERING |
|---|---|---|---|---|---|---|
| SL2SPCB-F | S54329-F140-A1 | Speaker | CEILING | – None – | BLACK | FIRE |
| SL2SPCR-AL | S54329-F141-A1 | Speaker | CEILING | – None – | RED | ALERT |
| SL2SPCW-AL | S54329-F144-A1 | | CEILING | – None – | WHITE | ALERT |
| SL2SPCR-F | S54329-F142-A1 | Speaker | CEILING | – None – | RED | FIRE |
| SL2SPCW-F | S54329-F146-A1 | | CEILING | – None – | WHITE | FIRE |
| SL2SPCR-N | S54329-F143-A1 | Speaker | CEILING | – None – | RED | – NO LETTERING – |
| SL2SPCW-N | S54329-F147-A1 | | CEILING | – None – | WHITE | – NO LETTERING – |
| SL2SPCW-A | S54329-F145-A1 | Speaker | CEILING | – None – | WHITE | AGENT |
| SL2SPSCR-ALA | S54329-F154-A1 | Speaker-Strobe | CEILING | Amber | RED | ALERT |
| SL2SPSCW-ALA | S54329-F161-A1 | | CEILING | Amber | WHITE | ALERT |
| SL2SPSCR-NA | S54329-F155-A1 | Speaker-Strobe | CEILING | Amber | RED | – NO LETTERING – |
| SL2SPSCW-NA | S54329-F162-A1 | | CEILING | Amber | WHITE | – NO LETTERING – |
| SL2SPSCR-A | S54329-F156-A1 | Speaker-Strobe | CEILING | Clear | RED | AGENT |
| SL2SPSCW-A | S54329-F163-A1 | | CEILING | Clear | WHITE | AGENT |
| SL2SPSCR-AL | S54329-F157-A1 | Speaker-Strobe | CEILING | Clear | RED | ALERT |
| SL2SPSCW-AL | S54329-F164-A1 | | CEILING | Clear | WHITE | ALERT |
| SL2SPSCR-F | S54329-F158-A1 | Speaker-Strobe | CEILING | Clear | RED | FIRE |
| SL2SPSCW-F | S54329-F165-A1 | | CEILING | Clear | WHITE | FIRE |
| SL2SPSCR-N | S54329-F159-A1 | Speaker-Strobe | CEILING | Clear | RED | – NO LETTERING – |
| SL2SPSCW-N | S54329-F166-A1 | | CEILING | Clear | WHITE | – NO LETTERING – |
| SL2SPSCR-FB | S54329-F160-A1 | Speaker-Strobe | CEILING | Clear | RED | PICTOGRTAM |
| SL2SPSCW-FB | S54329-F167-A1 | | CEILING | Clear | WHITE | PICTOGRAM |
| SLSPBBCR | S54329-F55-A1 | Backbox | CEILING | None | RED | – NO LETTERING – |
| SLSPBBCW | S54329-F55-A2 | | CEILING | None | WHITE | – NO LETTERING – |

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

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

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

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

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**April - 2024**
**(Rev 3)**

SIEMENS

# Notification Appliances

## 'SL2' Series – Horns | Strobes | Horn-Strobes

### Applications: Indoor, Wall-Only

## Architect & Engineer Specifications

- ☐ Sophisticated series of notification appliances that meets fire-industry codes and regulations for commercial-building applications
- ☐ Compatible with the Siemens 50-point, 252-point and 504-point addressable fire alarm control panels (FACPs), and with:
  - Siemens Modular FACPs
  - Siemens PAD-series of NAC extenders
  - FireFinder® XLS / XLSV FACPs
  - Siemens dual-sync control (DSC) modules
- ☐ Innovative LED strobe technology provides an energy-efficient means for a significantly reduced current draw
  - Capability to have existing Xenon and new LED strobes in the same field-of-view
  - Fewer power supplies required, smaller wire gage, reduced wire runs
- ☐ Straightforward installation coupled with compact, modern design
  - No visible mounting screws
  - Manual (index finger) slide-setting adjustor
  - Six (6) field-selectable settings in one (1) device: 15cd | 30cd | 75cd | 110cd | 135cd | 185cd
- ☐ Faceplates ship in four (4) distinctive types:
  - 'FIRE' | 'ALERT' | 'AGENT' | 'NO LETTERING'
- ☐ Two (2) audible settings in each notification appliance
  - Temporal or steady horn output
  - High or Low setting
- ☐ UL1638 | UL1971 | UL464 Listed
- ☐ ULC-S525-16 | ULC- S526-16 Listed
- ☐ FM & CSFM Approved

## Product Overview

Formed as the `SL2'-series, Siemens is now offering horns, strobes, and horn-strobes with LED based strobes to its notification-appliances portfolio. With the `SL2'-series, Siemens offers a full range of products with low and high candela settings that makes these sophisticated notification appliances ideal for new installs and retrofit applications.

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

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

In a single device, the `SL2'-series can provide alarm-signaling tones for dual applications. All strobe models in the series feature multi-Candela settings (15cd | 30cd | 75cd | 110cd | 135cd | 185cd ) on a single appliance.

Additionally, there are three (3) modes of operation for the audible portion of these notification appliances:

- Continuous(Code 3 field selectable)
- T3 (Code 3 Sync)
- T3/T4 (Sync Selectable w/DSC)

The `SL2'-series of horns, strobes and horn-strobes devices are produced in a sleek, modern design. Its single-gang form factor provides high-quality energy efficiency in an aesthetically pleasing, low-profile design that is consistent to the look of the interior composition of the building application.

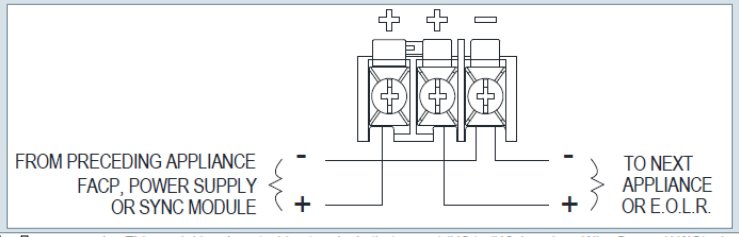
The Model `SL2HW'-series horn appliances work in either 12V or 24VDC, whereas the Series `SL2SW' and `SL2HSW' strobe and horn-strobe devices are specifically designed for 24V operation. The `SL2'-series is apt for indoor, wall-mount applications.

**Model SL2HWR-N**
**Horn**

**Model SL2SWR-N**
**Strobe**


**Model SL2HSWW-F**
**Horn-Strobe**

## Wiring Diagrams




1. This model has in-out wiring terminals that accept #12 to #18 American Wire Gauge (AWG) wires at each screw terminal. Strip leads 3/8 inches and connect to screw terminals.

2. Break all in-out wire runs on supervised circuits to assure integrity of circuit supervision as shown in Figure 2. The polarity shown in the wiring diagrams is for operation of the appliances. The polarity is reversed by the FACP during supervision.

**SL2HW, SL2SW , SL2HSW**
**Horns | Strobes | Horn-Strobes**

## Specifications

In terms of composition and functionality, Models `SL2HW'-series, `SL2SW'-series, and `SL2HSW'-series of horns, strobes and horn-strobe appliances provide added value to the installer for the types of applications for operation:

- Compact | sleek | low-profile design
- Comprehensive feature list
- Convenient mounting options
- Easy-to-adjust selection-slider switch for Candela settings
  - No tools required for setting changes
  - Multi-level settings: 15cd | 30cd | 75cd | 110cd | 135cd | 185cd
- High and Low audible outputs
- Reduced current draw, via cutting-edge LED technology

The LED portions of the Siemens `SL2'-series of strobes and horn-strobes meet the 20 millisecond light-pulse-duration requirements of the 2016 edition of NFPA 72. By meeting this latest requirement, existing Xenon as well as the new LED-technology devices can now be in the same field-of-view.

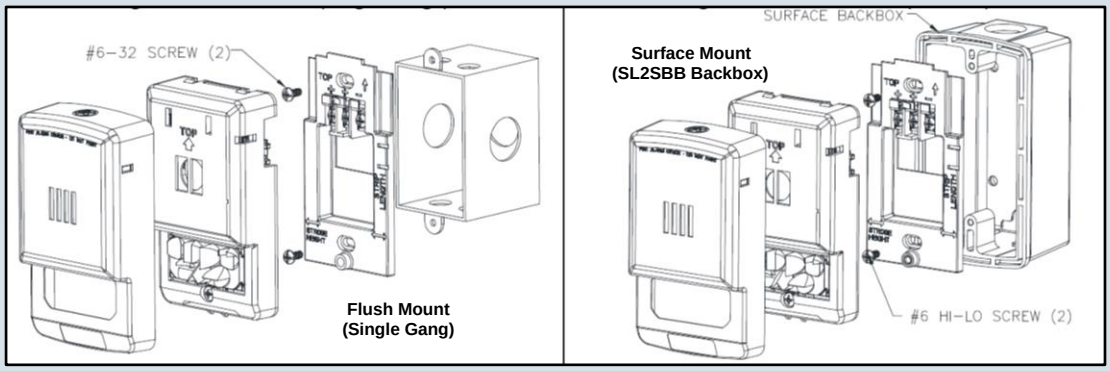
The Horns, Strobes and Horn-Strobes in this Siemens `SL2'-series of notification appliances have received UL / ULC Listed status by attaining compatible testing standards with all Siemens fire-alarm control panels (FACPs) and accessories that have been determined to be aligned with existing Siemens strobe-based appliances.

This would include the following existing model-types: ST | SE | SEH | SET | S-HQ | STH | AS | CH | HS | MTH | SL and Z-Series notification appliances. The regulatory listing also includes the capability for installing the Siemens `SL2'-series LED-based strobes in the same notification zone and field-of-view with any existing Siemens Notification Appliance Xenon-based strobes.

All types of the 'SL2'-Series horns, strobes and horn-strobe appliances are UL / ULC Listed for indoor use.

Horn: UL464, ULC-S525-16 | Strobe: UL1638, UL1971, CAN/ULC-S526-16

## Mounting Diagrams




**Trimplate Dimensions**:

5.25'' (13.3 cm.) [H]
4.58'' (11.6 cm.) [W]
0.32'' (0.81 cm.) [D]

**Mounting Options Include**:

- Model SL2SBB to any single-gang backbox
- 4" (10.2 cm.) square backboxes

## Technical Data

### Horn-Strobes | Output Current Draw

| Model 'SL2HS' Series:^ | Current Ratings (Amps @ 24V) HIGH dB | | | | | |
|---|---|---|---|---|---|---|
| Setting | 15cd | 30cd | 75cd | 110cd | 135cd | 185cd |
| CONT<br>T3<br>T3/T4 | 0.037 | 0.046 | 0.077 | 0.109 | 0.146 | 0.208 |

| Model 'SL2HS' Series:^ | Current Ratings (Amps @ 24V) LOW dB | | | | | |
|---|---|---|---|---|---|---|
| Setting | 15cd | 30cd | 75cd | 110cd | 135cd | 185cd |
| CONT<br>T3<br>T3/T4 | 0.030 | 0.039 | 0.070 | 0.102 | 0.139 | 0.201 |

### Horn-Only | Output Current Draw

| Model 'SL2H' Series:^ | Current Ratings (Amps) RMS Current @ 24VDC | | |
|---|---|---|---|
| | Regulated Voltage Range | High | Low |
| | 12VDC (8-17.5V) | 0.025 | 0.020 |
| | 24VDC (16-33V) | 0.028 | 0.021 |

### Strobe-Only | Output Current Draw

| Model 'SL2S' Series:^ | Current Ratings (Amps) | | | | | |
|---|---|---|---|---|---|---|
| | Regulated Voltage Range | | | | | |
| | 16.0 – 33.0 VDC | | | 16.0 – 33.0 VRMS | | |
| | 15cd | 30cd | 75cd | 110cd | 135cd | 185cd |
| | 0.022 | 0.030 | 0.060 | 0.086 | 0.125 | 0.185 |

### Horn | Output Ratings (UL)

| Model 'SL2HW'– and – 'SL2HSW' Series:^ | UL Sound Output Ratings (dBA) Reverberant per UL464 @ 10 feet | | |
|---|---|---|---|
| | Setting | SL2HW @ 12VDC | SL2HW & SL2HSW @ 24VDC |
| | CONT \| T3\| \| T3/T4 | High dBA | High dBA |
| | | 80 | 80 |
| | CONT \| T3\| T3/T4 | Low dBA | Low dBA |
| | | 78 | 78 |

### Horn | Output Ratings (ULC)

| Model 'SL2HW'– and – 'SL2HSW' Series:^ | ULC Sound Output Ratings (dBA) Anechoic per ULCS525-16 @ 3.05 meters | | |
|---|---|---|---|
| | Setting | SL2HW @ 12VDC | SL2HW & SL2HSW @ 24VDC |
| | CONT \| T3\| \| T3/T4 | High dBA | High dBA |
| | | 85 | 91 |
| | CONT \| T3\| \| T3/T4 | Low dBA | Low dBA |
| | | 79 | 86 |

*^ RMS current ratings are per UL maximum RMS method.*
*UL max current rating is the maximum RMS current within the listed voltage range (16 - 33V for 24V*
*^ For audible appliances, the max current is usually at the maximum listed voltage (16 - 33V for 24V units)*
*^ For unfiltered FWR ratings, see installation instructions*

**GENERAL NOTES:**

1. Strobes are designed to flash at 1-flash-per-second minimum over their " Regulated Voltage Range."
2. NFPA-72 specifies a flash rate of 1-to-2 flashes-per-second.
3. All Candela ratings represent minimum effective Strobe intensity based on UL 1971.

## Technical Data

### General Properties

| | MODEL `SL2'-series |
|---|---|
| OPERATING TEMPERATURE: | - 32°F (0°C) to 122°F (50°C)<br>- for indoor use only |
| RELATIVE HUMIDITY: | 93%, maximum |
| OPERATING VOLTAGE RANGES: | - 12 VDC / VFWR → 8.0 - 17.5 V<br>- 24 VDC / VFWR → 16.0 – 33.0 V<br>(12 VDC for Model SL2HW only) |
| STROBE OUTPUT RATING: | - UL 1638, 1971 \| ULC-S526-16<br>- Field-selectable 15cd \| 30cd \| 75cd \| 110cd \| 135cd \| 185cd Candela outputs |
| STROBE FLASH RATE: | Strobes are designed to flash at one-flash-per-second |
| STROBE SYNCRONIZATION: | - all Siemens Addressable Panels<br>- Siemens PAD-series NAC extenders<br>- Siemens Dual-Sync (DSC) modules, which provide the unique Siemens proprietary synchronization protocol |
| TEMPORAL PATTERN: | - Continuous<br>- Code 3 (½ second on, ½ second off; then ½ second on, ½ second off; followed by ½ second on, 1-½ second off and repeat)<br>NOTES: The Code 3 pattern is specified by ANSI and NFPA 72 for Standard Emergency Evacuation Signaling. |

### Physical Properties

| | MODEL `SL2'-series | |
|---|---|---|
| MATERIAL: | - White-or-red textured, ultraviolet (UV) stabilized, colored impregnated engineered plastic<br>- Exceeds 94V-0 UL flammability rating | |
| WEIGHT: | 0.35 Lbs. (0.16 Kg.) | |
| LENS TYPE: | LED strobe situated in a rugged Lexan lens | |
| DIMENSIONS: | Actual Appliance:<br>4.79" (12.1 cm.) [H]<br>2.76" (7.0 cm.) [W]<br>1.18" (2.9 cm.) [D] | Single-Gang Trim Plate:<br>5.25" (13.3 cm.) [H]<br>4.58" (11.6 cm.) [W]<br>0.32" (0.81 cm.) [D] |

### Mounting and Wiring Properties

| | MODEL `SL2'series |
|---|---|
| INDOOR MOUNTING: | - Wall-mount applications<br>- Model SL2SBB to any Single-Gang Backbox or to 4" (10.2 cm.) square box with trim plate and separately ordered mud-ring |
| WIRING TYPE: | #12 – #18, American Wire Gauge (AWG) |

## Details for Ordering

| MODEL | PART NUMBER | APPLIANCE TYPE | MOUNTING TYPE | STROBE TYPE | FACEPLATE COLOR | FACEPLATE LETTERING |
|---|---|---|---|---|---|---|
| SL2HWR-N | S54329-F85-A1 | Horn | WALL | – None – | RED | – No Lettering – |
| SL2HWW-N | S54329-F86-A1 | | WALL | – None – | WHITE | – No Lettering – |
| SL2HSWR-A | S54329-F97-A1 | Horn-Strobe | WALL | Clear | RED | AGENT |
| SL2HSWW-A | S54329-F102-A1 | | WALL | Clear | WHITE | AGENT |
| SL2HSWR-AL | S54329-F98-A1 | Horn-Strobe | WALL | Clear | RED | ALERT |
| SL2HSWW-AL | S54329-F103-A1 | | WALL | Clear | WHITE | ALERT |
| SL2HSWR-F | S54329-F99-A1 | Horn-Strobe | WALL | Clear | RED | FIRE |
| SL2HSWW-F | S54329-F105-A1 | | WALL | Clear | WHITE | FIRE |
| SL2HSWR-N | S54329-F100-A1 | Horn-Strobe | WALL | Clear | RED | – No Lettering – |
| SL2HSWW-N | S54329-F106-A1 | | WALL | Clear | WHITE | – No Lettering – |
| SL2HSWR-FB | S54329-F101-A1 | Horn-Strobe | WALL | Clear | RED | – Pictogram – |
| SL2HSWW-FB | S54329-F107-A1 | | WALL | Clear | WHITE | – Pictogram – |
| SL2HSWW-EV | S54329-F104-A1 | Horn-strobe | WALL | Clear | WHITE | Evacuation |
| SL2SWR-ALA | S54329-F202-A1 | Strobe | WALL | Amber | RED | ALERT |
| SL2SWW-ALA | S54329-F211-A1 | | WALL | Amber | WHITE | ALERT |
| SL2SWR-NA | S54329-F203-A1 | Strobe | WALL | Amber | RED | – No Lettering – |
| SL2SWW-NA | S54329-F212-A1 | | WALL | Amber | WHITE | – No Lettering – |
| SL2SWR-ALB | S54329-F204-A1 | Strobe | WALL | Blue | RED | ALERT |
| SL2SWW-ALB | S54329-F213-A1 | | WALL | Blue | WHITE | ALERT |
| SL2SWR-NB | S54329-F205-A1 | Strobe | WALL | Blue | RED | – No Lettering – |
| SL2SWW-NB | S54329-F214-A1 | | WALL | Blue | WHITE | – No Lettering – |
| SL2SWR-A | S54329-F206-A1 | Strobe | WALL | Clear | RED | AGENT |
| SL2SWW-A | S54329-F215-A1 | | WALL | Clear | WHITE | AGENT |
| SL2SWR-AL | S54329-F207-A1 | Strobe | WALL | Clear | RED | ALERT |
| SL2SWW-AL | S54329-F216-A1 | | WALL | Clear | WHITE | ALERT |
| SL2SWR-F | S54329-F208-A1 | Strobe | WALL | Clear | RED | FIRE |
| SL2SWW-F | S54329-F218-A1 | | WALL | Clear | WHITE | FIRE |
| SL2SWR-N | S54329-F209-A1 | Strobe | WALL | Clear | RED | – No Lettering – |
| SL2SWW-N | S54329-F219-A1 | | WALL | Clear | WHITE | – No Lettering – |
| SL2SWR-FB | S54329-F210-A1 | Strobe | WALL | Clear | RED | – Pictogram – |
| SL2SWW-FB | S54329-F220-A1 | | WALL | Clear | WHITE | – Pictogram – |
| SL2SWW-EV | S54329-F217-A1 | Strobe | WALL | Clear | WHITE | Evacuation |
| SL2SBB-R | S54329-F221-A1 | Backbox | WALL | – None – | RED | – No Lettering – |
| SL2SBB-W | S54329-F222-A1 | | WALL | – None – | WHITE | – No Lettering – |

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

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

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

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

SIEMENS

**Siemens Industry, Inc.**
Smart Infrastructure – Building Products
2 Gatehall Drive • Parsippany, NJ 07054
**Tel:** (973) 593-2600

**October - 2023**
**(Rev. 2)**

# SLA BATTERIES
SEALED LEAD ACID

PRODUCT SHEET

## General Purpose

**Most versatile. Suited for backup & deep cycle applications.**

Duracell® Ultra SLA technology offers high-density power that outperforms traditional lead acid batteries. The Absorbed Glass Mat (AGM) construction is designed for efficient gas recombination and allows for maintenance-free operation. Every Duracell® Ultra SLA battery is inspected to ensure the highest standards in materials and fabrication.

## APPLICATIONS

- Emergency Lighting
- Small UPS/Backup
- Memory Backup
- Mobility/Scooter
- Solar Power
- Security Systems
- Telecom

*

*

DURACELL® ULTRA

### Cycle Life
50-150 cycles at 100% discharge.

### Spillproof Design
Unique design construction and sealing techniques guarantee leak-proof operation.

### Maintenance Free
Maintenance-free design and manufactured in compliance with the quality management system standard of ISO 9001.

### Nationwide Warranty
If something goes wrong, we want to make it right. Return the battery to any Batteries Plus location nationwide and our experts will take a look.

## Account Benefits

### Delivery
We drive to you, and meet you on your time, which means your focus stays on running your business.

### Recycling
We recycle according to your municipality's ordinances. Go green.

### Case Quantities
Commercial discounts and volume pricing available through your local store.

# SLA BATTERIES

**SEALED LEAD ACID**

PRODUCT SHEET

| Vendor Product # | Voltage | Capacity (20 Hr Test) | Terminal Type | Length (in) | Width (in) | Height+ (in) |
|---|---|---|---|---|---|---|
| DURA4-4.5F2 | 4V | 4AH | F2 | 1.85 | 1.85 | 4.21 |
| DURA6-1.3F | 6V | 1.2AH | F1 | 3.82 | 0.94 | 2.26 |
| DURA6-2ST | 6V | 2AH | ST | 1.69 | 1.46 | 2.99 |
| DURA6-2.9F | 6V | 2.8AH | F1 | 2.60 | 1.30 | 4.06 |
| DURA6-3.3F | 6V | 3.2AH | F1 | 5.28 | 1.36 | 2.64 |
| DURA6-5F-L | 6V | 5AH | F1 | 4.29 | 1.38 | 2.91 |
| DURA6-5F | 6V | 5AH | F1 | 2.76 | 1.85 | 4.17 |
| DURA6-5SP | 6V | 4.5AH | SP | 2.64 | 2.64 | 4.29 |
| DURA6-7.2F | 6V | 7.2AH | F1 | 5.94 | 1.34 | 3.94 |
| DURA6-8.2F | 6V | 8.5AH | F1 | 3.86 | 2.20 | 4.72 |
| DURA6-10F | 6V | 10AH | F1 | 5.94 | 2.01 | 3.94 |
| DURA6-12F | 6V | 12AH | F1 | 5.94 | 1.97 | 3.89 |
| DURA6-12F2 | 6V | 12AH | F2 | 5.94 | 1.97 | 3.89 |
| DURA6-14A | 6V | 13AH | F1 (neg) F2 (pos) | 4.25 | 2.76 | 5.51 |
| DURA6-42F2 | 6V | 42AH | F2 | 6.34 | 3.43 | 6.65 |
| DURA6-42NB | 6V | 42AH | NB | 6.34 | 3.43 | 6.89 |
| DURA6-200C | 6V | 200AH | C | 12.05 | 6.61 | 8.98 |
| DURA8-3.2F | 8V | 3.2AH | F1 | 5.28 | 1.44 | 2.71 |
| DURA12-0.8WL | 12V | 0.8AH | WL | 3.78 | 0.98 | 2.44 |
| DURA12-1.3F | 12V | 1.2AH | F1 | 3.82 | 1.69 | 2.28 |
| DURA12-2.3F | 12V | 2.3AH | F1 | 7.01 | 1.34 | 2.60 |
| DURA12-2.9F | 12V | 2.9AH | F1 | 3.11 | 2.20 | 4.13 |
| DURA12-3.3F | 12V | 3.2AH | F1 | 5.28 | 2.64 | 2.64 |
| DURA12-3.3F2 | 12V | 3.2AH | F2 | 5.28 | 2.64 | 2.64 |
| DURA12-5F | 12V | 5AH | F1 | 3.54 | 2.76 | 4.13 |
| DURA12-5F2 | 12V | 5AH | F2 | 3.54 | 2.76 | 4.13 |
| DURA12-5.1A | 12V | 5AH | F1 (neg) F2 (pos) | 5.51 | 1.89 | 4.06 |
| DURA12-7F | 12V | 7AH | F1 | 5.94 | 2.56 | 3.94 |
| DURA12-7F2 | 12V | 7AH | F2 | 5.94 | 2.56 | 3.94 |
| DURA12-8F | 12V | 8AH | F1 | 5.94 | 2.56 | 3.94 |
| DURA12-8F2 | 12V | 8AH | F2 | 5.94 | 2.56 | 3.94 |
| DURA12-9F | 12V | 9AH | F1 | 5.94 | 2.56 | 3.94 |
| DURA12-9F2 | 12V | 9AH | F2 | 5.94 | 2.56 | 3.94 |
| DURA12-9NB | 12V | 9AH | NB | 5.94 | 2.56 | 4.17 |
| DURA12-10F2 | 12V | 10AH | F2 | 5.94 | 2.56 | 4.67 |
| DURA12-12F2 | 12V | 12AH | F2 | 5.94 | 3.86 | 3.86 |
| DURA12-12NB | 12V | 12AH | NB | 5.94 | 3.86 | 4.09 |
| DURA12-12F | 12V | 12AH | F1 | 5.94 | 3.86 | 3.86 |
| DURA12-13NB | 12V | 13AH | NB | 5.24 | 3.07 | 6.22 |
| DURA12-14F2 | 12V | 14AH | F2 | 5.94 | 3.88 | 3.98 |
| DURA12-18C/FR | 12V | 18AH | C | 7.14 | 3.03 | 6.59 |
| DURA12-18F2 | 12V | 18AH | F2 | 7.13 | 3.03 | 6.59 |
| DURA12-18NB | 12V | 18AH | NB | 7.13 | 3.03 | 6.59 |
| DURA12-26NB | 12V | 26AH | NB | 6.54 | 6.89 | 4.92 |
| DURA12-33C | 12V | 33AH | C | 7.72 | 5.12 | 6.61 |
| DURA12-33J | 12V | 33AH | J | 7.72 | 5.12 | 7.09 |
| DURA12-35C | 12V | 36AH | C | 7.72 | 5.12 | 6.65 |
| DURA12-44C/FR | 12V | 44AH | C | 7.72 | 6.50 | 6.89 |
| DURA12-55P | 12V | 55AH | P | 9.06 | 5.43 | 9.11 |
| DURA12-55C/FR | 12V | 58AH | C | 9.02 | 5.43 | 8.50 |
| DURA12-80P | 12V | 80AH | P | 10.24 | 6.61 | 9.15 |
| DURA12-80C/FR | 12V | 79AH | C | 10.20 | 6.65 | 8.50 |
| DURA12-100C/FR | 12V | 107.6AH | C | 12.09 | 6.61 | 8.43 |
| DURA12-140C/FR | 12V | 140AH | C | 13.50 | 6.73 | 11.02 |

* ⚠ **WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.**

+ Battery height includes terminals

## Questions About Products?

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TRANSTECTOR
an INFINITE brand

# Data Surge Protector SPD FSP Indoor RS-232, RS-422, Sense Loops Screw Terminal SASD 120 V


**1101-372-4**
FSP 4004 MC

## Features

- Models for Wide Range of Balanced Pair Voltages
- Terminal Block Connectivity
- Dedicated Ground Stud
- Wall Mount

## Applications

- RS-422 Networks
- Telecommunications Base Stations
- WISP/ISP
- IT & Data Centers
- Point-to-Point Links
- Control Lines and Sense Loops
- Oil & Gas

## Description

Data surge protector (also known as SPD or lightning protector) 1101-372-4 from Transtector is an indoor style SPD that utilizes state of the art SASD technology to protect critical equipment in RS-422 protocol data networks while remaining transparent to data throughput. This surge protector provides effective protection against electrical transient surges that are generated both by external lightning events and by internal switching events and supports long-term system reliability by absorbing high amounts of transient energy while maintaining a very low clamping voltage. Transtector Data Signal surge protectors are available in stock with same day shipping.

## Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|
| Connectors | | Screw Terminal | | |
| Data Protocols | | RS-232, RS-422, Sense Loops | | |
| Data Rate | | | 1.5 | Mb/s |
| Vdc Rating (Data) | | 120 | 145 | Vdc |
| Voltage Rating (DC) | | | 120 | Vdc |

## Surge Protection Specification

| Description | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|
| Surge Protection Technology | | SASD | | |
| Protection Modes | | L-G | | |
| 10/1000µs Surge Current | | | | |
| L-G | | | 21.4 | A |
| Response Time | | | 5 | ns |

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications:
Data Surge Protector SPD FSP Indoor RS-232, RS-422, Sense Loops Screw Terminal SASD 120 V 1101-372-4

Data Surge Protector SPD FSP Indoor RS-232, RS-422, Sense Loops Screw Terminal SASD 120 V


**1101-372-4**
FSP 4004 MC

## Mechanical Specifications

### Size

| | | |
|---|---|---|
| Height | 2.2 in | [55.88 mm] |
| Width | 3.16 in | [80.26 mm] |
| Depth | 1.44 in | [36.58 mm] |
| Weight | 0.2 lbs | [90.72 g] |

## Environmental Specifications

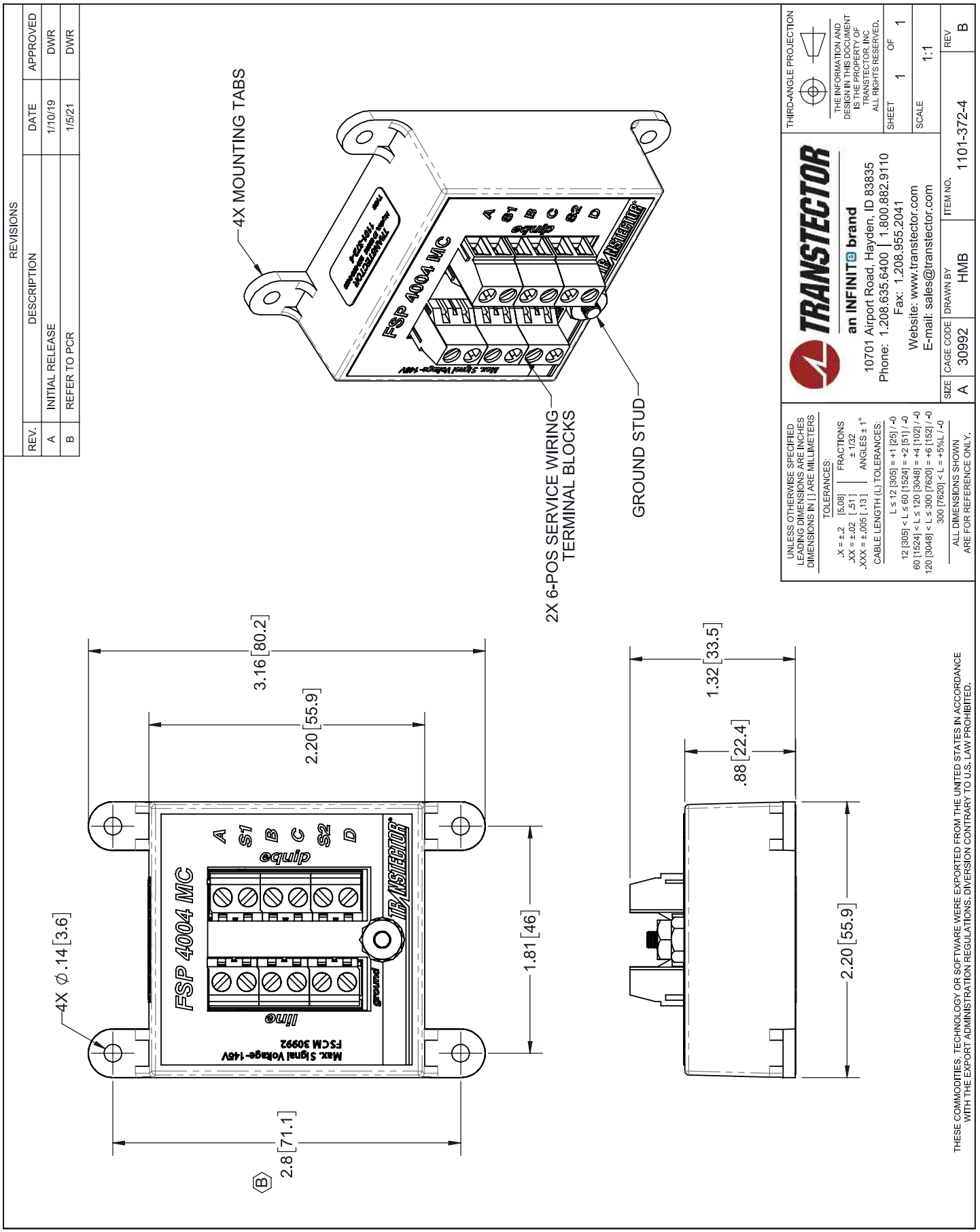
| | |
|---|---|
| Operating Temperature | -40 to +85 deg C |
| Storage Temperature | -40 to +85 deg C |
| Mount Type | Wall |
| Grounding | 6-32 Stud |

Transtector Systems specializes in protection of highly sensitive, low voltage equipment through its patented, non-degrading silicon diode technology and custom filters. Our power quality expertise translates into a diverse product offering including AC, DC, and signal applications as well as integrated cabinets, power distribution panels and EMP hardened devices.

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: Data Surge Protector SPD FSP Indoor RS-232, RS-422, Sense Loops Screw Terminal SASD 120 V 1101-372-4

URL: https://www.transtector.com/data-surge-protector-spd-fsp-indoor-rs-1101-372-4-p.aspx

## 1101-372-4 CAD Drawing



# PULL STATION SERIES

## DIE-CAST METAL MANUAL PULL STATIONS


- UL and cUL Listed, FM Approved, CSFM Listed, MEA Approved, ADA Compliant
- Single or Dual Action
- Terminal connectors
- 10 Amp Snap Action Switch
- Gold plated SPST contacts
- Optional auxiliary contacts
- Mounts on standard single gangbox
- Surface backboxes available
- High-gloss red enamel finish
- Glass breakrod
- Made in the U.S.A.

**Description**

The Potter Pull Station Series offers a complete line of die-cast pull stations for a variety of applications focusing mainly on fire alarm systems. The pull stations are available in single or dual action models. All of the pull stations have a 10-amp snap action switch and a dedicated terminal block for the ease of wire connections. All of the metal is completely coated to inhibit corrosion and provide for a uniform and quality finish.

The standard models have a hex key reset, however a key reset is also available. The models are available with shallow and deep surface mount back boxes and as a weatherproof version.

**Operation**

The Potter single action series of pull stations operate by pulling the white operating handle straight down and the handle will lock into place. The dual action stations require the lifting of the front cover and then pulling the white operating handle straight down. The stations are reset by opening the front and placing the handle in the normal position.

**Engineering Specifications**

The contractor shall furnish and install the Potter series of pull stations as indicated. The pull station shall be die cast construction with a "T" type pull handle that is ADA compliant. Single action pull stations shall be a P32-1T. Dual action pull stations shall be the Potter P32-1T-LP. Any manual pull station installed in an outdoor or wet location shall be a RMS-1T-WP weather proof unit. The contact shall be a single pole, single throw switch rated at 1 amp 30V DC/125V AC. The device shall have a terminal block for ease of wiring. Once activated, the pull station shall be reset by opening the front cover. Opening of the cover in a normal state shall initiate an alarm.

**Specifications**

Switch Rating: 1 Amp @ 30 VDC
10 Amps @ 125 VAC
Pull Station Dimensions: 4-3/4" H x 3-1/4" W x 7/8" D
Color: Red with raised white letters, white pull bar with raised red letters

*For special application manual stations see bulletin #8910014.*
*For explosion proof manual stations see bulletin #8880014.*

**Ordering Information**

| Type | Model Number | Stock Number | Contact Type |
|---|---|---|---|
| Single Action | P32-1T | 1000447 | SPST |
| | RMS-2T | 1000477 | DPST |
| | RMS-6T | 1000478 | DPDT |
| | RMS-1T-KL | 1000451 | SPST |
| | RMS-1T-KO | 1000450 | SPST, key operated, no pull |
| Weather Proof | RMS-1T-WP | 1000401 | SPST |
| Dual Action | P32-1T-LP | 1000476 | |
| Weather Proof Dual Action | RMS-1T-WP-LP | 1000403 | |
| Accessories | | | Notes |
| Dual Action | RMS-LP | 1000480 | Converts single action to dual action |
| Back Box | P32-BB | 1000444 | Surface mount back box |
| Back Box | P32-DBB | 1000445 | Deep surface mount back box |
| Glass Rods | RMS-GB | 1000470 | Replacement glass rods (10 per pkg) |

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TRANSTECTOR
an INFINITE brand

# Data Surge Protector SPD CP Indoor CATV Repeaters/Amplifiers Wire Nut SASD

**1100-988-1**
CP2297

## Features

- 100% SASD Protection
- Wired Lead Connectivity
- Wall Mount

## Applications

- CATV Repeaters/Amplifiers Networks
- Telecommunications Base Stations
- WISP/ISP
- IT & Data Centers
- Point-to-Point Links
- Control Lines and Sense Loops
- Oil & Gas

## Description

Data surge protector (also known as SPD or lightning protector) 1100-988-1 from Transtector is an indoor style SPD that utilizes state of the art SASD technology to protect critical equipment in CATV Repeaters/Amplifiers protocol data networks while remaining transparent to data throughput. This surge protector provides effective protection against electrical transient surges that are generated both by external lightning events and by internal switching events and supports long-term system reliability by absorbing high amounts of transient energy while maintaining a very low clamping voltage. Transtector Data Signal surge protectors are available in stock with same day shipping.

## Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|
| Connectors | | Wire Nut | | |
| Data Protocols | | CATV Repeaters/Amplifiers | | |
| Vdc Rating (Data) | | | 24 | Vdc |

## Surge Protection Specification

| Description | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|
| Surge Protection Technology | | SASD | | |
| Protected Pins | | [1,2], [3,6], [4,5], [7,8] | | |
| Protection Modes | | L-L | | |
| 10/1000µs Surge Current | | | | |
| L-L | | | 67 | A |
| Vpl 10/1000µs | | | | |
| L-L | | | 48 @67A | Vpk |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications:
Data Surge Protector SPD CP Indoor CATV Repeaters/Amplifiers Wire Nut SASD 1100-988-1

TRANSTECTOR
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Data Surge Protector SPD CP Indoor CATV Repeaters/Amplifiers Wire Nut SASD

**1100-988-1**
CP2297

| | | |
|---|---|---|
| Response Time | 5 | ns |

## Mechanical Specifications

**Size**

| | | |
|---|---|---|
| Height | 2.2 in | [55.88 mm] |
| Width | 3.16 in | [80.26 mm] |
| Depth | 0.88 in | [22.35 mm] |
| Weight | 0.15 lbs | [68.04 g] |

## Environmental Specifications

| | |
|---|---|
| Operating Temperature | -30 to +65 deg C |
| Storage Temperature | -30 to +65 deg C |

## Installation

| | |
|---|---|
| Mount Type | Wall |
| Grounding | 8" Lead and Butt Crimp #22 - #16 AWG |

## Compliance Certifications

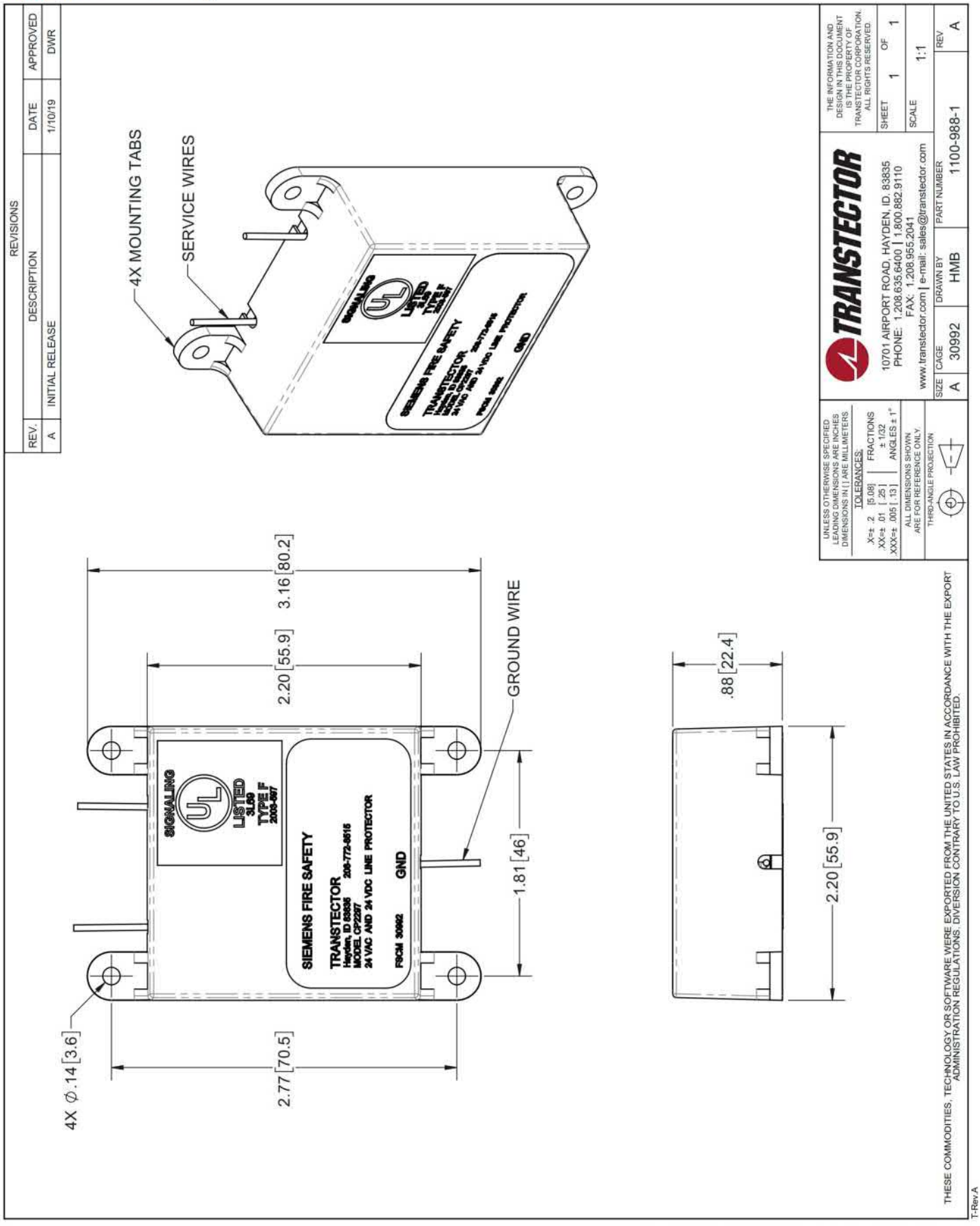
| | |
|---|---|
| UL Compliant | Yes |
| Certifications | UL 497B |

Transtector Systems specializes in protection of highly sensitive, low voltage equipment through its patented, non-degrading silicon diode technology and custom filters. Our power quality expertise translates into a diverse product offering including AC, DC, and signal applications as well as integrated cabinets, power distribution panels and EMP hardened devices.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: Data Surge Protector SPD CP Indoor CATV Repeaters/Amplifiers Wire Nut SASD 1100-988-1

URL: https://www.transtector.com/data-surge-protector-spd-cp-indoor-catv-1100-988-1-p.aspx

## 1100-988-1 CAD Drawing



TRANSTECTOR
an INFINITE brand

# AC Surge Protector SPD CP Plug-In 120 Vac Single-Phase 15 A SASD 10 kA, UL 94-V0


**1101-010**
ACP 2341

## Features

- 100% SASD Protection
- Suppression Status Lamp
- Hard-Wired
- Wall Mount

## Applications

- Electrical Panelboards
- Industrial Automation
- Communications Base Stations
- IT & Data Centers
- Switchgear
- Motor Control Centers
- Automatic Transfer Switches
- Wastewater Treatment
- Oil & Gas
- LED Lighting
- Schools
- Hospitals

## Description

AC surge protector (also known as SPD or lightning protector) 1101-010 from Transtector is a UL 94-V0 plug-in style SPD that utilizes state of the art SASD technology to protect critical equipment that operates on a 120 Vac Single-Phase electrical service. This surge protector provides effective protection against electrical transient surges that are generated both by external lightning events and by internal switching events and supports long-term system reliability by safely shunting high amounts of transient energy while maintaining a very low clamping voltage. Transtector AC surge protectors are available in stock with same day shipping.

## Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|
| Service Voltages | | 120 | | Vac |
| Service Type | | Single-Phase | | |
| Current Rating | | | 15 | A |
| Maximum Continuous Operating Voltage (MCOV) | | | | |
| L - N | | | 145 | Vac |

## Surge Protection Specification

| Description | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|
| Surge Protection Technology | | SASD | | |
| Protection Modes | | L-N/G | | |
| 8/20µs Surge Current | | | 10 | kA |
| Vpl 8/20µs L-N | | 330 | | Vpk |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications:
AC Surge Protector SPD CP Plug-In 120 Vac Single-Phase 15 A SASD 10 kA, UL 94-V0 1101-010

TRANSTECTOR
an INFINITE brand

AC Surge Protector SPD CP Plug-In 120 Vac Single-Phase 15 A SASD 10 kA, UL 94-V0


**1101-010**
ACP 2341

| | | |
|---|---|---|
| Response Time | 5 | ns |

## Mechanical Specifications

**Size**

| | | |
|---|---|---|
| Height | 6.5 in | [165.1 mm] |
| Width | 3 in | [76.2 mm] |
| Depth | 2.7 in | [68.58 mm] |
| Weight | 0.7 lbs | [317.51 g] |
| Housing Material and Plating | Noryl N190X | |

## Environmental Specifications

| | |
|---|---|
| Temperature Range (Operational) | -30 to +65 deg C |
| Humidity | 90% non-condensing |

## Compliance Certifications

| | |
|---|---|
| UL Compliant | Yes |
| Certifications | UL 94-V0 |

Transtector Systems specializes in protection of highly sensitive, low voltage equipment through its patented, non-degrading silicon diode technology and custom filters. Our power quality expertise translates into a diverse product offering including AC, DC, and signal applications as well as integrated cabinets, power distribution panels and EMP hardened devices.

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: AC Surge Protector SPD CP Plug-In 120 Vac Single-Phase 15 A SASD 10 kA, UL 94-V0 1101-010

URL: https://www.transtector.com/ac-surge-protector-spd-cp-plug-in-1101-010-p.aspx

## 1101-010 CAD Drawing