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Gibbens Drake Scott, Inc. 9201 E. 63rd Street, Suite 100 Raytown, Missouri 64133 Phone: (816) 358-1790 Fax: (816) 358-2367 www.gdsengr.com

Fire Alarm System Equipment, Submittal for: MCC AUTOMOTIVE INSTITUTE

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

Job Number 440P-379485



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

PREPARED FOR: MCC AUTOMOTIVE INSTITUTE 500 SW LONGVIEW RD. LEE'S SUMMIT, MO 64081

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

7	CP2297	Surge Suppressor	Insert	CP2297
2	CP2341	Surge Suppressor	Insert	CP2341

SIEMENS

FACP Accessories

PAD-5 Addressable Power Supply Unit Models PAD5-6A | PAD5-6A-R | PAD5-9A | PAD5-9A-R

Architect & Engineer Specifications Product Overview

- 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 notificationappliance 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 twoheight-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



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

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

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

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

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

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

Specifications

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

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

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



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

Specifications – (continued)

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

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

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

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



Typical 1HU enclosure configuration

PAD-5 Unit Components

PAD-5-MB

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

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 Unit Components – (continued)

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' conventionaldetection 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

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 / The one-height-unit (1HU) extenders. enclosure, Model PAB-ENCL, is the basic enclosure.

circuit, as well as consistent ground fault detection.

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 twoheight-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.

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PAB-ENCL 1 HU Enclosure



PAB2-ENCL 2 HU Enclosure

Status Indicator LEDs				
Battery Charging Status:	Green	Red		
NAC 1 Status:	Ye	llow		
NAC 2 Status:	Ye	llow		
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		

Power Supplies

There are also two (2) types of powerlimited 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)



Configuration Options									
CIRCUIT	M	PAD-5 MAIN BOARD		Model CLSA EXPANSION CARD			E0L		
ТҮРЕ	1	2	3	4	5	6	7	8	REQUIRED
Sync Coded Pattern	~	~	~	~	~	~	~	~	Yes 2.2k – 24kΩ
Auxiliary Power Output	~	\checkmark	~	~	~	~	~	~	-
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	3.0A per circuit, max.			
CURRENT:	- 6A, max. [via FP2011-U1]			
power]	- 9A, max. [via FP2012-U1]			
TOTAL	24VDC @ 6A, [with the 170W power supply, Model FP2011-U1]			
POWER:	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			
	Two (2) `Class A' – up to four (4) `Class A' (via Model PAD-5-CLSA)			
	 Four (4) 'Class B' 			
	 One (1) `Class A', Two (2) `Class B' 			
INSTALLATION ENVIRONMENT:	Indoor Dry			
NACS:	 Supervised, power-limited 10mA standby, max. 3A active Operating 0.3A Regulated four (4) circuits 2K ohms (+), 8K Ω (-) 			

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

PAD-5 Unit Accessories					
iodel Or Type	PART NUMBER	PRODUCT			
BAAP	S54339-A14-A1	Adapter Plate (used to mount a booster amplifier)			

S54339-A12-A1

S54339-A13-A1

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P3AP

P4AP

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Adapter Plate (used to mount a Siemens PAD-3 auxiliary power unit)

Adapter Plate (used to mount a Siemens PAD-4 auxiliary power unit)

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NOTICE -

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

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

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

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

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







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) (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) (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) (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
ВСМ	500-033320	Blank Control Module Plate

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Desigo[®] Fire Safety

Siemens Industry, Inc. **Smart Infrastructure - Building Products** Tel: (973) 593-2600

February - 2023





Desigo[®] Fire Safety Modular System

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

Archi	tect & Engineer Specifications	Product Overview	
	40-Watt, plug-in audio amplifier	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' speake	/ er-
	Selectable audio levels 25VRMS 40 Watts	be configured to provide 40 Watts of audio at 25VRMS or at 70VRMS.	111
	 70VRMS 40 Watts 	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 channe	e. els
	Local audio input	that are transmitted from the Digital Audio Card (Model DAC-NET), via the digita audio bus Audio Serial Interface (Model ASI). Model ZAC-40 amplifier is supervise for functionality.	ıl- ed
	Speaker lines supervised when active or inactive	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	
	Class 'B' or 'A', power-limited wiring	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	Transaction of the
	Split-zone (A / B) wiring on Class 'B'	ZAC-40 can also send audio to additional speaker zones, via the use of the Model EBA2004-A1 booster amplifier.	
	Plugs into either a Model CC-5 or Model CC-2 Card Cage	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.	[
	Supports and switches up to eight (8) digital-audio channels	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.	
	Internal amplifier supervision	Model ZAC-40 takes one (1) sub-module address of Model DAC-NET, and receives control and communication data from	
	Back-up amplification available	Model DAC-NET, via the CAN bus on Model DAC-NET.	
	UL864 & CAN/ ULC-S576 Listed	Model ZAC-40 contains an inherent Degrade Model 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 signa Model ZAC-40 is FM (#3015946, #3026902); CSFM (#6812-0067:237), and FDN (#6160) Approved.	dio Ils. NY
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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

Non-Emergency

Convenience Paging

Background Music

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

Temperature and Humidity Range

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

Electrical Ratings		
INPUT POWER		
24V CURRENT DRAW [Back Plane]		0mA
	@ 40W	2.3A
24V CURRENT DRAW [Screw Terminal]	@ 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

<u>NOTICE</u> – 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.

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

Desigo® Fire Safety

Siemens Industry, Inc.

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

SIEMENS

February - 2023 (Rev. 3)

Desigo[®] Fire Safety Modular System

Zone-Indicating Cards Model ZIC-8B (with Model ZIC-2C mounted)

Architect & Engineer Specifications Produ

- 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.

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-8B Zone Indicating Card

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	2 2 2				Distances of

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.

<u>Standard NAC Zone</u> – 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.

<u>Standard</u> Speaker Zone –

Each of the eight (8) circuits on Model ZIC-8B can be configured for use as a standardspeaker 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	
<u>HNET-FAIL LED</u>	Illuminates when the HNET communication fails, and Model ZIC-8B is in degrade mode.	
<u>GND-FAULT LED</u>	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)		
	17mA, per active output	
24V CURRENT DRAW:	0mA	
[Back Plane]	(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 $120 + 1/3^{\circ}F$ (49+1/-2°C) to $32+1/3^{\circ}F$ (0+1/-2°C) and a relative humidity of 93+1/-2% at a temperature of 90+1/-3°F (32+1/-2°C).

Details for Ordering			
MODEL OR TYPE	PART NUMBER	PRODUCT	
ZIC-8B	<mark>500-648670</mark>	(8) Eight-Circuit Zone Indicating Card	
ZIC-2C	500-648671	(2) Two-Channel Adapter Card	

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Desigo® Fire Safety

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

> February - 2023 (Rev. 1)



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

Product Overview

- 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

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]



Enclosures | Doors | Plates

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 lockand-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.



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.

Enclosures | Doors | Plates – (continued)



REMBOX2 (with doors open)

Two-Module Remote Enclosure

Model REMBOX2 has two (2) innerdoor 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.



Four-Module Remote Enclosures Model REMBOX4 has space for mounting four (4) inner door modules. Any combination (twomodule 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.



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 PSC-12 power supply, the Model PSX-12 power supply extender, and the Model ZAM-80 / 180 zone amplifiers.



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.



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.



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).



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), blankmodule 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.

Enclosures | Doors | Plates – (continued)



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 surfacemount 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. CAB1-TK (for Model 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	<mark>500-633917</mark>	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	
CAB1 <mark>R</mark>	500-633728	Complete Single-Row Cabinet, <mark>red</mark>	
CAB1-TK	500-633013	Single-Row Trim-kit Cabinet, black	
CAB1 <mark>R</mark> -TK	500-633729	Single-Row Trim-kit Cabinet, <mark>red</mark>	
CAB2-BB	500-633009	Two-Row Back Box, black	
CAB2-RB	500-634941	Two-Row Back Box, <mark>red</mark>	
CAB2-BD	500-633008	Two-Row Inner & Outer Door Set, black	
CAB2- <mark>R</mark> D	500-633755	Two-Row Inner & Outer Door Set, red	
CAB2-TK	500-633014	Two-Row Trim-kit Cabinet, black	
CAB2 <mark>R</mark> -TK	500-633753	Two-Row Trim-kit Cabinet, <mark>red</mark>	
CAB2-XBD	500-633768	CAB2 Transponder Door	
CAB2-X <mark>R</mark> D	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, <mark>red</mark>	
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	
CAB3 <mark>R</mark> -TK	500-633754	Three-Row Trim-Kit Cabinet, <mark>red</mark>	
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 <mark>-R</mark>	500-634919	Outer Door Blank Plate, <mark>red</mark>	
OD-GP	500-633018	Outer Grill Plate, black	
OD-GP- <mark>R</mark>	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-MLE6 <mark>R</mark> -ADPT	S54430-C9-A2	MLE-6R Enclosure Adapter, red	
XLS-MME3-ADPT	S54430-C8-A1	MME-3 and MBR-2 enclosure adapters, black	
XLS-MME <mark>3R</mark> -ADPT	S54430-C8-A2	MME-3 and MBR-2 encl. adapters, red	
XLS-MSE2- ADPT	S54430-C7-A1	MSE-2 enclosure adapter, black	
XLS-MSE2 <mark>R</mark> -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-MSE3 <mark>R</mark> -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-RCC13F <mark>R-</mark> ADPT	S54430-Z13-A2	RCC-1F RCC-3F enclosure adapter, red	

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

Desigo[®] Fire Safety

Siemens Industry, Inc. 2 Gatehall Drive • Parsippany, NJ 07054 Tel: (973) 593-2600

December - 2022

SIEMENS

SIEMENS

Detection Bases

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

Model ABHW-4B ABHW-4BZ

A <u>rc</u> ł	nitect & Engineer Specifications	Product Overview
	Innovative two-wire, loop-power option	The Model ABHW-4B Audible (Sounder) Base from Siemens Industry Inc. is an intelligent, supervised, and addressable detector base designed for use in standard
	Supports Class-X SLC operation via Siemens ISO <i>technology</i>	applications requiring an audible notification device. Each Model ABHW-4B base generates a 3,000 Hz audio signal that complies with NFPA 72 Standard.
	Highly flexible programming and configuration options with independently controlled outputs by device	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
	Provides six (6) field-configurable audible -tone patterns:	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
	 Steady American National Standards 	'S-series detector is used.
	Institute (ANSI) Temporal 3	The innovative loop-power option provides easier two-wire connection for new or
	 ANSI Temporal 4 Carbon Monoxide [CO] 	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
	 Temporal 4 Low Power 	notification-appliance circuit (NAC); a Siemens PAD-series NAC extender; Model ZIC-
	 March time 120 (and Canadian March time 30) 	4A, or any UL Listed, 24VDC regulated power supply.
_		Note: See the Model ABHW-4B Installation and Operation Manual (IOM: A6V10405587) for
	Power options include:	Madel ADUM 4D provides six (C) field configurable tange patterney, two (2) values
	 NACs Loop (two wire) 	levels are used with compatible Siemens detectors and FACPs. Steady: Temporal 3
	 Siemens PAD-series NAC Extenders 	pattern; Temporal 4 pattern; Temporal 4 with low power; March Time 120, and
	 Model ZIC-4A (for FireFinder XLS 	Canadian March Time 30 are supported by each intelligent audible (sounder) base.
	FACPs)	Intelligent audible (sounder) bases wired in the same device-loop circuit are fully
	 Any other UL Listed, 24VDC regulated power supply 	synchronized with the Desigo Advanced-Line and Standard-Line detectors, and support the Siemens Remote Lamps, Models RL-HC and RL-HW.
	Compatible with Desigo Fire Safety intelligent detectors and Siemens 'H'- series and 'S'-series devices	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.
	Synchronization by loop	Each intelligent, addressable audible (sounder) base consists of a standard Siemens
	Standard 3,000 Hz Buzzer tone	Fire Safety Series '11' detector-base layout combined with supportive circuitry for Desigo Fire Safety and Model 'HFP' / 'SFP'-series of addressable detectors.
	UL268, UL464 & UL2075 Listed; ULC- S525, ULC-S529 Listed	THE RECEIPTION OF THE PROPERTY OF
	FM (#3150, #3230 & #3010) and CSFM (#7300-0067:0271) Approved	
/ II		Model ARUW AR
0		(Front & Back View)

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(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				
	Loop power: 16 - 33 VDC		VDC		
Operating voltage:	External power:	16 - 33 VDC			
Supervisory	From SLC loop:	250 µ	AL		
Current (max)	From external source:	20 µA			
	Leen Deven	High dBA:	7.5 mA		
Alarm	Loop Power.	Low dBA:	4.5 mA		
(RMS max)	Future of Devices	High dBA:	8.0 mA		
	External Fower.	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	
	Person Machine Interface (PMI) v10.02 (or later)	
FireFinder XLS	Zeus Custom-Configuration Software v10.02 (or later)	
	Device Loop Card (Model DLC) v6.01 (or later)	
Model FC2005	Desigo 50-point addressable FACP v01.04.20 (24), Software-tool v01.02.16 (53)	
Models FC2025 FC2050	0 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	

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	500-033290 <mark>C</mark>	' <mark>S</mark> '-Series Optical / Heat Detector
SFPT-11	500-033380 <mark>C</mark>	' <mark>S</mark> '-Series Heat Detector
SFPO-11	500-034800 <mark>C</mark>	' <mark>S</mark> '-Series Optical Detector

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

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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> July - 2023 (Rev. 5)

Desigo[®] Specialized Detection Devices

[']DB' Series Detector Bases Models DB2-HR, DB-11 and DB-11E

Architect & Engineer Specifications Product Overview

- □ Each detector base supports Isolation field wiring for ISOtechnology 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 ASAtechnology 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

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 ASAtechnologyTM

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 selfwiping 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.









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	<mark>500-094151</mark>	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 ASAtechnology™	
FDOOTC441	S54320-F8-A1	Multi-Criteria Fire / CO Detector with ASA <i>technology</i> ™	
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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Desigo®

Siemens Industry, Inc. Smart Infrastructure - Building Products 2 Gatehall Drive • Parsippany, NJ 07054 Tel: (973) 593-2600 April - 2023 (Rev. 2)



Desigo® Fire Safety

Specialized Devices

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

Architect & Engineer Specifications

Product Overview

□ Four (4) models available

- Addressable and conventional with and without relays
- Compatible with Siemens Fire Safety conventional and addressable firealarm 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, stainlesssteel and watertight enclosure available, Model FDBZ-WT
- □ No tools required for cover removal, sampling and exhaust-tube installations
- □ Trouble-event activation upon frontcover removal
- □ Alarm LED visible from front
- Self-contained model available with 'onboard' power supply for conventional detectors
- □ Expanded temperature range
- □ Relay models available
- UL268A Listed, ULC-S529 Listed
- FM (#3010), CSFM (#3240-0067:0265) Approved



Siemens Smart Infrastructure - Building Products

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.)

<u>Note</u>: 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.)

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

Sampling Tube Selection Table

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.

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 <i>Trouble</i> 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 cmx- 12.7 cmx- 6.36 cm.) Square: 7.75" -x- 9" -x- 2.5" (19.7 cmx- 22.9 cmx- 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. For use with the following Models: OP121 FP-11 FD0421 FP-11 FD00T441 HFP-11 FD00TC441 HFP0-11 PE-11C PE-11 SFP0-11 SFP0-11
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. For use with the following Models: FD0421
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. For use with the following Models: PE-11 PE-11C 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. For use with the following Models: PE-11 PE-11C 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. For use with the following Models: FDBZ492-HR FDBZ492-R 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. For use with the following Models:
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.

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> March - 2023 (Rev. 6)



SIEMENS

Desigo[®] Fire Safety Detectors and Peripherals

Photoelectric Smoke Detector Model FDO421

Architect & Engineer Specifications

Product Overview

- □ UL 268 7th edition Listed
 □ Built-in ISOtechnology[™]
- □ 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 SureWireTM 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



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 **ISOtechnology™** - 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 **ISOtechnology** 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).



Photoelectric Smoke Detector

Siemens Smart Infrastructure - Building Products



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

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

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



All Model FDO421 intelligent, addressable detectors are approved for operation with the Underwriters' Laboratoriesspecified 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		Panel Compatibilities		
OPERATING TEMPERATURE:	*32° – *100°F (0° – *38°C)	MODEL OR TYPE	DATA Sheet	PANEL
RELATIVE HUMIDITY:	0 – 95% (non-condensing)	XLS	6300	FireFinder® (fire)
AIR PRESSURE:	No effect	XLSV	6340	FireFinder (fire w/ voice)
AIR VELOCITY:	0 - 4,000 feet-per-minute (fpm) (0 - 20 meters-per-second)	DESIGO MODULAR	7300	Desigo Modular (overview)
INPUT VOLTAGE RANGE:	16VDC – 30VDC	FC2005	6813	Desigo Fire Safety 50-point addressable
`ALARM' Current, Max.:	410µA	FC2025		Desigo Fire Safety 252-pt.
`STANDBY' Current, Max.:	250µA	FC2050	6815	Desigo Fire Safety 504-pt. addressable (fire)
MAXIMUM SPACING:	30-ft. centers (900 sq. ft.), per NFPA 72	E\/2025		Desigo Fire Safety 252-point addressable
WEIGHT:	0.317 Lbs. (0.144 kg.)	1 02025		(fire w/ Intelligent Voice Communication [IVC])
MECHANICAL PROTECTION GUARD:	UL and ULC Listed (with STI Guard Model STI- 9604)		6821	504-nt addressable
SENSITIVITY RANGE:	1.41 - 3.76 % / ft obs. (Nominal 2.0 % / ft. obs.)	FV2050	(fire w/ Intelligent Voice Communication [IVC])	

Details for Ordering			
MODEL PART OR TYPE 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 <mark>Canada</mark> order:		
MODEL OR TYPE	MODEL PART PRODUCT	
DB-11C	500-095687	Detector Mounting Base, ULC Listed

<u>NOTICE</u> – 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.

Desigo[®] Fire Safety

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

> March - 2024 (Rev. 15)

SIEMENS



Desigo[®] Fire Safety Detectors and Peripherals

Multi-Criteria Fire Detector [with ASAtechnology[™]] Model FDOOT441

Architect & Engineer Specifications

- UL 268 7th edition Listed, ULC Listed; FM (#3230, #3210), CSFM (#7272-0067:0258) Approved
- □ Built-in ISOtechnologyTM
- □ 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 multicriteria and `VEWFD' fire detector
- UL 268A Listed for direct air-duct use (4,000 FPM)
- Supervisory temperaturemonitoring feature
- Remote sensitivity-measurement capability
- □ Automatic environmental compensation
- □ Up to 22 application profiles
- Tri-color detector-status lightemitting 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*TM 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 **ISOtechnology™** - 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 ASAtechnology]

Data Sheet 6154 usa.siemens.com/fire

Siemens Smart Infrastructure - Building Products



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 ASAtechnology 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
- Two (2) thermal sensors

- > One (1) optical receiver
- 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 *I* 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 $135^{\circ}F$ to $175^{\circ}F$ ($57^{\circ}C$ to $79^{\circ}C$), 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



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

Thermal Ratings		
FIELD-SELECTABL	E TEMPERATURE PROFILES	
	135°F (57.2°C)	
	145°F (62.8°C)	
FIXED TEMPERATURE:	155°F (68.3°C)	
	165°F (73.9°C)	
	175°F (79.4°C)	
	135°F (57.2°C) +	
	R-o-R, 15°F (⁻9.4°C)	
FIXED	175°F (79.4°C) +	
TEMPERATURE +	R-o-R, 15°F (⁻9.4°C)	
RATE-OF-RISE:	135°F (57.2°C) +	
(R-O-R)	R-o-R, 20°F (⁻ 6.6°C)	
	175°F (79.4°C) +	
	R-o-R, 20°F (⁻ 6.6°C)	
FIELD)-SELECTABLE	
ALARM-TH	RESHOLD PROFILES	
THRESHOLD.	2.5% / feet	
	3.0% / feet	
THRESHOLD,	2.5% / feet	
VERIFIED:	3.0% / feet	

Approvals Standards		
FACTORY MUTUAL (FM)	3210, 3230	
CALIFORNIA STATE FIRE MARSHAL (CSFM)	7272-0067:0260	
	UL268	
	UL268A	
UNDERWITERS LABORATORES (UL ULC)	UL521	
	ULC-S529	
	ULC-S530	
	NFPA 25	
NATIONAL FIRE PROTECTION AGENCY	NFPA 72	
	NFPA 76	
Electrical Ratings		

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

Mounting Diagrams | Dimensions





[with Model DB-11 detector base]



[with Model DB-11E detector base]

Details for Ordering			
MODEL OR TYPE	PART NUMBER	PRODUCT	
FDOOT441	S54320-F7-A1	Multi-Criteria Fire Detector with ASAtechnology™	
Co	ompatible [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 <mark>Canada</mark> order:			
MODEL OR TYPE	PART NUMBER	PRODUCT	
DB-11C	500-095687	Detector Mounting Base, ULC Listed	

Product Compatibilities			
MODEL OR DATA TYPE 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		Desigo Fire Safety 252- point addressable (fire)	
FC2050	6815	Desigo Fire Safety 504- point addressable (fire)	
FV2025		Desigo Fire Safety 252- point addressable (fire w/ Intelligent Voice Communication [IVC])	
FV2050	6821	Desigo Fire Safety 504- point addressable (fire w/ Intelligent Voice Communication [IVC])	

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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 - 2024 (Rev. 13)



Desigo[®] **Fire Safety Detectors and Peripherals**

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

Architect & Engineer Specifications

Product Overview

- UL 268 7th edition Listed, ULC Listed; FM (#3230, #3210), CSFM (#7272-0067:0258) Approved
- □ Built-in ISOtechnology[™]
- 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 (nuisancealarm avoidance)
- □ Compatible with `H'-series devices on the same loop of Desigo Fire Safety FACPs
- Enhanced detection via forward-andbackward 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 multicriteria 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 smolderingfire 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)



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 **ISOtechnology**[™] - 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 ASAtechnology]

Siemens Smart Infrastructure - Building Products

Datasheet 6153 usa.siemens.com/fire



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-guality, optical-electronic measuring chamber for each Model FDOOTC441 houses the following components:

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

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' Laboratoriesspecified temperature range of 32° to 120° (0° to 49°C) – depending on heat-detector configuration (see: installation manual P/N - A6V10324657 for further details).







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 guestions 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			Therm	nal Ratings	11	Details for Ordering		
OPERATING TEMPERATURE:	+32° – +120°F (0° – +49°C)	FIELD-SE	LECTABLE	TEMPERATURE PROFILES		MODEL OR TYPE	PART NUMBER	PRODUCT
HEAT DETECTOR RANGE: PROGRAMMABLE	+135° – +175°F (+57° – +79°C) -4° – +120°F	FIX	ED ATURE:	135°F (57.2°C) 145°F (62.8°C) 155°F (68.3°C)		FDOOTC441	S54320-F8-A1	Multi-Criteria Fire CO Detector with ASA technology™
SUPERVISORY TEMPERATURE	(⁻20° – ⁺49°C) (available with	TEMPER	ATONE.	165°F (73.9°C)		С	ompatible	Devices:
WARNING: PROGRAMMABLE	compatible FACPs) 30 – 600 ppm			175°F (79.4°C) 135°F (57.2°C) +		MODEL OR TYPE	PART NUMBER	PRODUCT
SUPERVISORY CO- GAS WARNING: DETECTOR	(available with compatible FACPs) <u>UL Listed</u> : 0.88 to 3.35% / ft. NFPA 76 (Telco)	FIX TEMPER/	ED ATURE +	R-o-R, 15°F (⁻ 9.4°C) 175°F (79.4°C) + R-o-R, 15°F (⁻ 9.4°C)		ABHW-4B	S54320-F13-A1	Buzzer Version Audible Base (standard 3,000 Hz tone)
SENSITIVITY RANGE:	VEWFD: 0.2% / feet Pre- alarm: 1.0% / feet	RATE-O	F-RISE: P-R)	135°F (57.2°C) + B-o-B_20°F (-6.6°C)		ABHW-4BZ	S54320-F13-A2	Audible Base
AIR VELOCITY:	Alarm 0 - 4,000 feet-per-minute			175°F (79.4°C) + R-o-R, 20°F (⁻ 6.6°C)		ABHW-4S	S54320-F14-A1	Sleeping Room Version 520 Hz Low Frequency Audible Base
Open Area: Direct-in-duct	0 – 4,000 fpm		FIELD	-SELECTABLE		ABHW-4SZ	S54320-F14-A2	Audible Base
AIR PRESSURE:	No effect	A	LARM-THE	2.5% / feet		DB-11	500-094151	Detector Mounting Rase
ACTIVE, STANDBY CURRENT:	0.75 mA	THRES	HOLD:	3.0% / feet		DB-11F	500-09/151E	
APPLICATION PROFILES:	26 (field-configurable)	THRES VERIF	HOLD, FIED:	2.5% / feet 3.0% / feet		DB2-HR	S54370- F12-A1	Detector Mounting Base with Relay
	70±5 PPM in 60 – 240 min. 150±5 PPM in 10 – 50 min. 400±10 PPM in 4 – 15 min.	P	anel Co	ompatibilities		RL-HC	500-033230	Remote Alarm Indicator 4" (10.2 cm) octagon- box mount, red
CO CONCENTRATION RESPONSE TIMES	and has been tested to the sensitivity limits defined in UL2034	OR TYPE	DATA SHEET	PANEL		RL-HW	500-033310	Remote Alarm Indicator single-gang box mount, red
	Standard.	×20	0500			LK-11	500-695350	Base Locking Kit
	with NFPA 72 code	XLSV	6340	FireFinder (fire w/ voice)		See: ww	w.STI-USA.c	com for further
RELATIVE HUMIDITY:	0 – 95% (non-condensing)	DESIGO MODULAR	7300	Desigo Modular (overview)		details o	In Canada	order:
Approv	als Standards	FC2005	6813	Desigo Fire Safety 50-point addressable		MODEL OR TYPE	PART NUMBER	PRODUCT
CALIFORNIA ST	ATE 7070 0007 0000	FC2025		Desigo Fire Safety 252-pt. addressable (fire)		DB-11C	500-095687	Detector Mounting Base, ULC Listed
FIRE MARSHAL (C	(SFM) 7272-0067:0260	FC2050	6815	Desigo Fire Safety 504-pt. addressable (fire)				
UNDERWITER LABORATORE (UL ULC)	S UL268A UL2075 UL521 UL2075 ULC-S529 ULC-S530	FV2025	6821	Desigo Fire Safety 252-point addressable (fire w/ Intelligent Voice Communication [IVC])				
NATIONAL FIF PROTECTION AG	RE NFPA 25 ENCY NFPA 72 NFPA 76	FV2050	502 I	Desigo 504-pt. addressable (fire w/ Intelligent Voice Communication [IVC])				

Siemens

this heat 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.

Desigo[®] Fire Safety

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

> March - 2024 (Rev. 11)



SIEMENS

Desigo[®] Fire Safety **Detectors and Peripherals**

Thermal (Heat) Detector Model FDT421

Architect & Engineer Specifications

□ Built-in ISOtechnology[™]

- □ 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, microprocessorbased signal processing
- **Each detector is self-testing:** complete diagnostics performed every 10 seconds
- □ Polarity insensitive via SureWireTM 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 ISOtechnology[™] - 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.







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 **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).

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) Fixed 145°F (63°C) Fixed 155°F (68°C) Fixed 165°F (74°C) Fixed 175°F (79°C) 	 <u>Rate-of-Rise</u>: 15°F / min. (8.3°C) at fixed 135°F (57°C) <u>Rate-of-Rise</u>: 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



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		Pa	anel Cor	npatibilities	U	Details for Ordering				
	+32° – +120°F (0° – +49°C)	MODEL OR	DATA SHEET	PANEL		MODEL OR TYPE	-	PART NUMBER	PRODUCT	
OPERATING	[with 145 F (63 C) 155 F (66 C) 165°F (74°C) and 175°F (79°C) alarm-threshold settings]	TYPE				FDT421		S54320-F5-A	Thermal (Heat) Detector	
IEMPERATURE:	+32° – +100°F, (0° – +38°C) With 135°F (57°C) alarm	XLS	6300	FireFinder (fire)		C	omp	atible D	evices	
	threshold setting]	YI SV	6340	EiroEindor (firo w/ voico)		MODEL I OR TYPE NU		PART JMBER	PRODUCT	
	Model FD1421 provides seven (7) field-selectable, pre-programmed	ALGV	0340			ABHW-4B S543		20-F13-A1	Buzzer Version Audible Base (standard 3,000 Hz tone	
	• Fixed 135°F (57°C)	Desigo	7300	Desigo Modular (overview)	I	ABHW-4BZ	S543	20-F13-A2	Audible Base	
THERMAL	 Fixed 145°F (63°C) Fixed 155°F (68°C) Fixed 165°F (74°C) Fixed 175°F (78°C) 	Modular				ABHW-4S	S54320-F14-A1		Sleeping Room Version, 520 Hz Low Frequency Audible Base	
KATING.	 Fixed 175°F (79°C) <u>Rate-of-Rise</u>: 15°F / min. (8.3°C) at fixed 135°F (57°C) <u>Rate-of-Rise</u>: 15°F / min. (8.3°C) at fixed 175°F (79°C) 	EC2005	6813	Desigo Fire Safety 50-point addressable		ABHW-4SZ	S54320-F14-A2		Audible Base	
		102003				ADB-BOX	500-698360		Surface Mount Adapter Box for Audible Base	
		FC2025		Desigo Fire Safety 252-pt. addressable (fire)		DB2-HR	S543	70-F12-A1	Relay base compatible with Siemens standard and advanced detectors	
RELATIVE HUMIDITY:	0 – 95% (non-condensing)		6815	6815		DE	DB-11	500	-094151	Detector Mounting Base
AIR PRESSURE:	No effect	EC2050		Desigo Fire Safety 504-pt.		DB-11F	500-	094151F	Detector Base small	
INPUT VOLTAGE	16VDC – 30VDC	1 02050		addressable (fire)		DD IIL		oo none	Pemote Alarm Indicator:	
ALARM'	4404		- 6821	Desigo Fire Safety		RL-HC	500	-033230	4"(10.2 cm) octagon-box mount, red	
CURRENT, MAX:	410µA	FV2025		- 6821	252-point addressable (fire w/ Intelligent Voice Communication [IVC])		RL-HW	500	-033310	Remote Alarm Indicator: single-gang box mount, red
CURRENT, MAX:	250µA						LK-11	500	-695350	Base Locking Kit
MAXIMUM SPACING:	50-ft. (15.24 m.) centers (2500 sq. ft. 232.3 sq. m.), per NFPA 72 and ULC-S524	FV2050		504-pt. addressable (fire w/ Intelligent Voice Communication [IVC])		See: ww de	ww.ST tails c	T-USA.com	n for further 9 Model STI-9604	
DETECTOR WEIGHT:	0.317 Lbs. (0.144 kg.)					MODEL	In	Canada PART	order:	
							NU		PRODUCT	

Siemens	
Smart Infrastructure - Building	Products

DB-11C

500-095687

Detector Mounting

Base, ULC Listed

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

Desigo[®] Fire Safety

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

> November - 2023 (Rev. 11)



Peripheral and Detection Devices Initiating Device

Intelligent Test Switch and Status Indicator Model TSM-1X

Architect & Engineer Specifications Product Overview

- 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



The Siemens – Fire Safety Intelligent Test Switch Module (Model TSM-1X) is a keyactivated (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.

<u>NOTE</u>: 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



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



March - 2023 (Rev. 1)



Peripheral and Detection Initiating Devices

XMS-Series Manual Pull Stations Addressable & Conventional Models

Architect & Engineer Specifications

- □ Single & Dual-Action models
- □ Built-in ISOtechnology™
 - 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.

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.



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		
	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		



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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lune - 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 Pro-

□ Siemens ISOtechnology[™]

- Provides "True Class-X" operation meeting NFPA 72 SLC field wiring requirements
- Supports 252 ISOtechnology 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 doublegang 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

Siemens



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" **ISOtechnology** 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 **ISOtechnology** – 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.



KTRI-D | XTRI-R | XTRI-S Intelligent Device Interface Module

Data Sheet 6167 usa.siemens.com/fire

Smart Infrastructure -Building Products



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.



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 usersupplied 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.

<u>NOTE</u>: 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). <u>Additionally, the X-series modules are compatible with all Desigo and Cerberus Pro detectors and peripherals of the same circuit.</u>

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 $32^{\circ}F(0^{\circ}C)$ to $120^{\circ}F(49^{\circ}C)$ with a relative humidity of no greater than 95%, non-condensing.

LED lindicators				
FLASH COLOR	CONDITION	FLASH INTERVALS [in seconds]		
GREEN*:	Normal supervisory operation	10		
YELLOW:	Device is in trouble and needs to be replaced	4		
DED.	Locate `Alarm'	1		
RED:	Output Device (XTRI-R only)	10		
NO FLASH:	-			

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.		
	XTRI-S	650µA	
	XTRI-R	750µA	
	XTRI-D	950µA	
RELAY RA (for Model	ATINGS: XTRI-R)		
	4 Amps	125 VAC	
4 Amps		30 VDC	
	3.5A, 120 VAC (0.6 pF)		
	3.0A, 30 VDC (0.6 pF)		
INDUCTIVE:	2.0A, 120 VA	AC (0.4 pF)	
	2.0A, 120 VA	C (0.35 pF)	
	2.0A, 30 VDC (0.35 pF)		

Details for Ordering			
MODEL PART OR TYPE 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	

<u>NOTE</u>: 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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SIEMENS

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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 ISOtechnologyTM
 Provides "True Class-X" operation meeting NFPA 72 SLC field wiring requirements

- Supports 252 ISOtechnology 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



Siemens Smart Infrastructure -Building Products

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" **ISOtechnology** 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 **ISOtechnology** – 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, **ISOtechnology** 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 *I* 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

Data Sheet 6166 usa.siemens.com/fire



Operation

Field-Device Programmer / Test Unit

Each Model XTRI-M Mini Module is programmed with the Siemens field-device programmer *I* 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. 18 AWG, min.	

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

<u>NOTICE</u> – 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 Industry, Inc. Smart Infrastructure - Building Products 2 Gatehall Drive • Parsippany, NJ 07054 Tel: (973) 593-2600

> March - 2023 (Rev. 3)

SIEMENS

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Fire Safety Products

Notification Appliances

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







AS-MC-CW

Product Overview

Fast installation with In / Out screw terminals using #12 to #18 AWG wires

AS-MC-R

- 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
- BUL Listed & BULC 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

AS / AH Series Notification Appliances 2578

Specifications - (continued)

- Series 'AS' Horn | Strobe appliances are of low current design
- - 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)







SIEMENS Industry, Inc. Building Technologies Division

Technical Data

AS-MC Series: Wall Mount

Curren	Current Ratings (AMPs) MAXIMUM RMS Current – with <u>Hi</u> dBA Setting				
Input Voltage 15cd 30cd 75cd 110				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 <u>Med</u> dBA Setting					
l	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				dBA Setting
]	Input Voltage 15cd 30cd 75cd 110cd				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-<u>H</u>MC Series: Wall and Ceiling Mount

Current Ratings (AMPs) MAXIMUM RMS Current – with <u>Hi</u> dBA Setting					
Input Voltage 115cd 135cd 177cd 185				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)					
	I	MAXIMUM R	MS Current	- with <u>Med</u>	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 BMS Current, with Low dBA Setting					
MAXIMUM RINS Current – with <u>Low</u> dBA Setting				UBA Setting	
1	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-<u>H</u>MC Series, <u>Weatherproof</u>: Wall Mount

Curren	Current Ratings (AMPs) MAXIMUM RMS Current – with <u>Hi</u> dBA Setting					
I	nput Voltage	135cd	185cd			
DC	16.0 – 33.0VDC	0.356	0.488			
FWR	16.0 - 33.0VRMS	0.499	0.705			

Curren	nt Ratings (AMPs)	MAXIMUM RMS Current	- with <u>Med</u> dBA Setting
]	Input Voltage	135cd	185cd
DC	16.0 – 33.0VDC	0.361	0.493
FWR	16.0 – 33.0VRMS	0.509	0.716

Curren	Current Ratings (AMPs)				
	MAXIMUM RMS Current – with Low dBA Settin				
l	Input Voltage	135cd	185cd		
DC	16.0 – 33.0VDC	0.356	0.499		
FWR	16.0 - 33.0VRMS	0.488	0.705		

AS-MC-C Series: Ceiling Mount

Curren	t Ratings (AMPs)	MAXIMUM RMS Current – with <u>Hi</u> dBA Setting			
I	nput 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

Curren	Current Ratings (AMPs) MAXIMUM RMS Current – with <u>Med</u> 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

Curren	Current Ratings (AMPs) MAXIMUM RMS Current – with <u>Low</u> 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-<u>H</u>MC-C Series, <u>Weatherproof</u>: Ceiling Mount

Curren	Current Ratings (AMPs) MAXIMUM RMS Current – with <u>Hi</u> dBA Settin				
Input Voltage 115cd 177cd			177cd		
DC	16.0 – 33.0VDC	0.546	0.742		
FWR	16.0 – 33.0VRMS	0.546	0.742		

Curren	t Ratings (AMPs) N	AXIMUM RMS Current –	with <u>Med</u> dBA Setting
1	Input Voltage	115cd	177cd
DC	16.0 – 33.0VDC	0.509	0.716
FWR	16.0 - 33.0VRMS	0.509	0.716

Curren	Current Ratings (AMPs)					
	MAXIMUM RMS Current – with Low dBA Settin					
1	Input Voltage 115cd 177cd					
DC	16.0 – 33.0VDC	0.488	0.705			
FWR	16.0 - 33.0VRMS	0.488	0.705			

AS-75 Series, <u>Weatherproof</u>: Wall & Ceiling Mount

Curren	t Ratings (AMPs)	MAXIMUM RMS Current – with <u>Hi</u> dBA Setting			
I	nput Voltage	30cd / 180cd 115cd (per ®UL1971) (per ®UL1638)			
DC	16.0 – 33.0VDC	0.178	0.178		
FWR	16.0 - 33.0VRMS	0.249	0.249		

Curren	nt Ratings (AMPs) I	MAXIMUM RMS Current – with <u>Med</u> dBA Setting		
I	input Voltage	30cd / 180cd 115cd (per ®UL1971) (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 Settin				
I	input Voltage	30cd / 180cd 115cd (per ®UL1971) (per ®UL1638)		
DC	16.0 – 33.0VDC	0.159	0.159	
FWR	16.0 – 33.0VRMS	0.233	0.233	

SIEMENS Industry, Inc.

Building Technologies Division

Technical Data

AH Series: Wall-only Mount

®UL (Current Ratings (AMPs)	Average Current		
\	/olume Levels	Low Medium High		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

	®UL / @ULC dBA Sound Output							
Description	Reverberant [Per ®UL464 @ 10 Ft.]				Anechoic [Per ®ULC-S525-99]			
Description	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

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

AS <u>Weatherproof</u> Series

® UL / ® ULC Models and Ratings							
Model*	Operating Voltage	Voltago Bango	®UL Rated Strop				
	(Special Application) Per ©UL 1638, ©UL1971 and ©UL464 (VDC/VRMS)	Per CAN/@ULC-S525-99/ S526-02 (VDC/VRMS)	At –40°C, per ®UL1638	®UL1971	ULC Rated Light Output (cd)		
AS-75- <mark>R</mark> -WP	16.0 – 33.0	20.0 - 33.0	115	30 / 180 *	30		
AS-75-C <mark>R</mark> -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-<u>H</u>MC 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	Volumo	Reverberant Per ®UL 464					
Description	volume	16.0 VDC	24.0 VDC	33.0 VDC			
0 11	Low	80	83	86			
Continuous	Medium	85	88	91			
nom	High	88	91	93			
	Low	75	79	82			
Code 3 Horn	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.

AH Series: Wall-only Mount

WULC 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

WULC Directional Characteristics						
-3 dBA:	48 degrees left, 41 degrees right					
-6 dBA:	50 degrees left, 58 degrees right					

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- <mark>R</mark>	500-636010	YES	-	AS Horn Strobe: Multi-Candela, Red	A,B,D,E,F,G,J,N,R,X	\checkmark	\checkmark	✓	\checkmark
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-C <mark>R</mark>	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- C <mark>R</mark> -WP	500-636181	-	YES	AS Horn Strobe: Hi Multi-Candela Ceiling Weatherproof, <mark>Red</mark>	I, GG, HH	~	~	Ι	~
AS-HMC- CW-WP	500-636182	-	YES	AS Horn Strobe: Hi Multi-Candela Ceiling Weatherproof, White	I, GG, HH	~	<	-	<
AS-HMC- <mark>R</mark> -WP	500-636183	YES	-	AS Horn Strobe: Hi Multi-Candela Wall Weatherproof, <mark>Red</mark>	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- C <mark>R</mark> -WP	500-636015	_	YES	AS Horn Strobe: 75CD Ceiling Weatherproof, Red	I, GG, HH	~	~	~	~
AH- <mark>R</mark>	500-636003	YES	YES	AH Horn, <mark>Red</mark>	A,B,D,E,F,G,J,N,R,X	\checkmark	~	~	✓
AH-W	500-636004	YES	YES	AH Horn, White	A,B,D,E,F,G,J,N,R,X	\checkmark	\checkmark	\checkmark	✓
AH- <mark>R</mark> -WP	500-636005	YES	YES	AH Horn: Weatherproof, Red	K, GG, HH	\checkmark	\checkmark	\checkmark	\checkmark

NOTE: There are no regulatory restrictions in mounting Siemens Series 'AH' <u>Horn-only</u> Appliances to either wall or ceiling applications. However, Siemens Series 'AS' <u>Horn |</u> <u>Strobe</u> Appliances are regulatoryspecific *to the* mounting options described above, based upon the appearance of FIRE, text shown on the sides of certain Siemens Series 'AS' faceplates.

Notes:

- 1. Models AS-75-<u>WP</u> and AS-75-R-<u>WP</u> 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

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

Agencylisted / approved => ✓

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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SIEMENS Industry, Inc. Building Technologies Division Fire Safety 8 Fernwood Road Florham Park, NJ 07932 Tel: (973) 593-2600 FAX: (908) 547-6877 URL: www.usa.Siemens.com/Fire

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SIEMENS

Notification Appliances

Mounting Options

Mounting Diagrams | Mounting Matrixes | Mounting Notes

----ARCHITECT AND ENGINEER SPECIFICATIONS-----



Mounting Options – (continued)



Mounting Options – (continued)



Siemens Smart Infrastructure – Buildin

Smart Infrastructure – Building Products

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	Series SET-C	Series SETSF	Series SETSF-B	Series ST	Series ST-MC-RETRO	Series ZH / ZR
(A) Universal Mounting Plate		\checkmark															~					\square			
(included with AS series devices)												-								_	-	μ	_		
(B) $1-GANG - x = 3-1/2$ Deep - Flush (BO)		~							✓ ✓			~								_		\vdash	~		~
(C) 1-GANG $-x = 1-3/4$ Deep - Surface (BO)			,			,		,	~	,	,									_		\vdash			
(b) $+ -x - + -x - 1.5$ Deep - Hush (BO)		✓ ✓	✓ ✓	✓ ✓		✓ ✓		✓ 		✓ ✓	✓ ✓	✓ ✓			/		/			-	-		✓ ✓	✓ 	<u> </u>
(E) $2 - 4 - 4 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - $		✓ ✓	~	~		✓ ✓	~	~		~	✓ 	✓ ✓			~	~	~			-	-	~	× 	~	<u> </u>
(c) 2-GANG $-x = 1.75''$ Deep - Flush (bO)		✓ ✓				~					~	✓ ✓								-		$\left \cdot \right $	✓ ✓		~
(I) WPBRS-R Weatherproof Backbox for AS-WP	2	~										~								-	-	$\left \cdot \right $	~		
(I) BBS Surface (SP)	<u> </u>	\vdash		/	-	-		/		/		/								+	\vdash	\vdash	+	+	
(K) WRRS Weatherproof (SP)	3		✓ ✓	✓ ✓				✓ 		✓ 		~										H	~		
(I) ISP-S2 Surface Adapter		~	v	~				~		v											v	H	\rightarrow		
(M) MT-SLIB-BOX Surface & Weatherproof (SP)	4					/					× 								/	-		$\left \cdot \right $	-	-	
(N) DBRS Surface (SP)			/			v 		/		/	× 								v	-		$\left \cdot \right $		-	
(O) Retrofit Plate			×	×		v		v		v	v .(v				./				-	v	$\left \cdot \right $	~	-	
(P) SBBS Surface (SP)		~	• ./	* .⁄	./	./		./			• •					•	./		./			1			
(0) 4" -x- 4" -x- 2.125" Box		•	•	•	•	•		v								•	•	•	•			Ť.			
[with 1.5" Extension Ring- Flush (BO)]					~									~	\checkmark	~	\checkmark	~	\checkmark	~		~		~	
(R) SFPS Semi-Flush Plate (SP)		\checkmark	\checkmark	\checkmark				~		\checkmark	~	\checkmark				\checkmark	~	~	~			\checkmark	\checkmark		
(S) APS Adapter Plate (SP)			~	~				~											~		\checkmark	П			
(T) WPSBBS-R Weatherproof Backbox for ST-WP	1		-																			Η		1	
(U) 5" Square Backbox w/ Extension Ring, Flush (BO)	w				\checkmark									~	~	~	~	~		~		\checkmark			
(V) SSB-4 Ceiling Support Bridge	Е														•		-			-		H	-	-	
(W) 4.6875" -x- 4.6785" -x- 2.125" Deep Surface (BO)	A				•									•		•									
(X) SHBBS (SP) Shallow Surface	т	\checkmark		\checkmark								\checkmark										Ħ	\checkmark		~
(Y) SERS Semi-Elush Extension Ring (Retrofit Appl.)	н	-			/											/	/	/	/			$\left \right $	_	-	
(Z) SBLS-2 Surface (SP)	F		/		~											~	~	~	v	~			-	_	
(AA) SDSP Packbox for SE Spoakor	D		~	~																-		×	-	~	
(PP) SPSB Backbox for SELICE Speaker	L L														\checkmark	~				_		\vdash	_		
Speakers and SE' Series Speaker / Strobes	Р														\checkmark	~		~							
(CC) SP Ceiling Support Bridge	R												\checkmark												
(DD) Ceiling Speaker Backbox	0												\checkmark												
(EE) SPEXT Extension Ring	0													~								П	╷╡	╡	
(FF) ZB	F																					H	╡	1	~
(GG) WFPS Plate	1, 2, 3, 4										~											Π	~		
(HH) WFPAS Plate		\checkmark																				Π	╡	1	
(I I) LFSBB Backbox							\checkmark					L									L				_
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

▲<u>Caution</u>: 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.

- ▲<u>Caution</u>: 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.
 - Conduit entrances to the back box should be selected to provide sufficient wiring clearance for the installed product.
 - 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	Ser `AS' Aud Str	Series `AS' `AH' Audible Strobe		Series ST- MC-RETRO (Flush and Surface Retrofit Plate)		es 'NS' Strobe	Seri an St	es`ST' Id`Z' robe	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/s″	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/s″	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 Chime S	s 'CH' Strobe	Series Speaker	'SET-V' Strobe	Series Speaker	'SEF-C' Strobe	Series 'SET-C' Speaker Strobe		
Mounting Options*	80 In.	6 IN.	80 In.	6 IN.	80 In.	6 In.	80 In.	6 In.	
(P) SBB Surface (<u>SP</u>)	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 (<u>BO</u>)	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 (<u>BO</u>)	78″	7″	79 1/2″	5 1/2″	78″	7″	78″	7″	
(X) SHBB (<u>SP</u>) Shallow Surface									
(Y) 4" x 4" x 1.5" Box w/ 1.5" Extension-Ring Plate - Flush (<u>BO</u>)	78 ^{1/2} "	7 ^{1/2} "	80″	6″					

* Measured from Bottom of Back box

<u>Notes</u>: (<u>BO</u>) = By Others

 $(\underline{SP}) = s Product$

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.

Fire Safety 2 Gatehall Drive Parsippany, NJ 07054 Tel: (973) 593-2600 FAX: (908) 547-6877 URL: <u>www.usa.Siemens.com/Fire</u>

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Fire Safety 1577 North Service Road East Oakville, Ontario L6H 0H6 / Canada Tel: [905] 465-8000 URL: <u>www.Siemens.CA</u>

February 2023 (Rev. 9)

SIEMENS

Data Sheet

Fire Safety Products

Notification Appliances

SET – Speakers and Speaker Strobes

Application: Indoor / Outdoor



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
- - 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 ®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
- 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 @UL Standard 1971

Mounting Diagram



(Shown In Inches)



Mounting Options

Siemens Smart Infrastructure – Building Products

Technical Data

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

Curren	Current Ratings (AMPs) MAXIMUM RMS Current										
Ι	nput 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-177, SET-185 Series Strobes: <u>Weatherproof</u>

Opera	Operating Voltage (Special Application)										
		75cd	177cd	90cd	185cd						
I	nput Voltage	(Per ®UL1638)	(Per ®UL1971)	(Per ®UL1638)	(Per ®UL1971)						
DC	16.0 - 33.0VDC	0.4	45	0.4	45						
FWR	16.0 – 33.0VRMS	0.6	84	0.6	84						

SET Series Strobes, Weatherproof

	©UL Models	and Ratings					
	Operating Voltage	©UL Rated Strobe Candela (
Model	(Special Application) Per ®UL1971 (VDC / VRMS)	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	dBA at 10 feet (Rated Watts)									
mouor	(VRMS)	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-MC-C and SET-<u>H</u>MC-C Series Strobes: Ceiling

Current Ratings (AMPs)

	MAXIMUM RMS Curren										
Ι	nput 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-S17 Series Strobes: Weatherproof

Operat	Operating Voltage (Special Application)							
		115cd	30/180cd					
	Input Voltage	(Per ®UL1638)	(Per ®UL1971)					
DC	16.0 - 33.0VDC	0.1	46					
FWR	16.0 - 33.0VRMS	- 33.0VRMS 0.235						

SET Series:	Speaker	Output,	Weatherproof
-------------	---------	---------	---------------------

	©UL Listed Models and Ratings											
Model*	Operating Voltage	dBA at 10 feet (Rated Watts)										
model	(VRMS)	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 ---В 4 ---2 С ----D 8 1 Е 1/2 4 F 1/4 2 G 1/8 1 Н 1/2 -----G 1/4-----1/8 Н -----

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

				Agei	icy Ap	provais
Model	Part Number	Description	Mounting Options*	UL	FM	CSFM
SET-MC- <mark>R</mark>	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-C <mark>R</mark>	500-636062	SET Series: Multi-Candela Ceiling, Red	Q,U,Y	✓	✓	~
SET-HMC- <mark>R</mark>	500-636053	SET Series: Hi Multi-Candela, <mark>Red</mark>	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- <mark>R</mark>	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- <mark>R</mark> -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- <mark>R</mark> -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

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.

Fire Safety 2 Gatehall Drive Parsippany, NJ 07054 Tel: (973) 593-2600 FAX: (908) 547-6877 URL: www.usa.Siemens.com/Fire

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February 2023 (Rev. 3)

SIEMENS

Notification Appliances

'SL2' Series – Horns | Strobes | Horn-Strobes Applications: Indoor, Ceiling-Only

Architect & Engineer Specifications

Product Overview

- Sophisticated series of notification appliances that meets fire-industry codes and regulations for commercial-building applications
- □ Compatible with the Siemens 50-point, 252point 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



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-pulseduration 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.



Wiring Diagrams



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 <u>existing</u> Siemens Notification Appliance <u>Xenon</u>-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

Technical Data

Current Ratings (Amps @ 24V) HIGH dB										
Model SL2HSC' Series:^	Setting	15cd	30cd	75cd	110cd	150cd	177cd			
	CONT T3 T3/T4	0.037	0.046	0.077	0.109	0.146	0.208			
	Current Ratings (Amps @ 24V) LOW dB									
Model	Setting	15cd	30cd	75cd	110cd	150cd	177cd			
SL2HSC' Series:^	CONT T3	0.030	0.039	0.070	0.102	0.139	0.201			
	13/14									

Horn-Strobes | Output Current Draw

Horn-Only | Output Current Draw

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

Strobe-Only | Output Current Draw

Current Ratings (Amps)									
Model	Regulated Voltage Range								
	10	6.0 - 33.0	VDC	16.0 – 33.0 VRMS					
Series:^	15cd	30cd	75cd	110cd	150cd	177cd			
	0.022	0.030	0.060	0.086	0.125	0.185			

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) for indoor use only 					
RELATIVE HUMIDITY:	93%, maximum					
OPERATING VOLTAGE RANGES:	12 VDC / VFWR → 8.0 - 17.5 V 24 VDC / VFWR → 16.0 - 33.0 V (12 VDC for Model SL2HC only)					
STROBE OUTPUT RATING:	 UL 1638, 1971 ULC-S526-16 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 Siemens PAD-series NAC extenders Siemens Dual-Sync (DSC) modules, which provide the unique Siemens proprietary synchronization protocol 					
TEMPORAL PATTERN:	 Continuous 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) <u>NOTES</u>: The Code 3 pattern is specified by ANSI and NFPA 72 for Standard Emergency Evacuation Signaling. 					

Physical Properties MODEL `SL2'-series - White-or-red textured, ultraviolet (UV) stabilized, MATERIAL: colored impregnated engineered plastic - Exceeds 94V-0 UL flammability rating WEIGHT: 0.55 Lbs. (0.24 Kg.) LENS TYPE: LED strobe situated in a rugged Lexan lens Horns: 6.27"(15.9 cm.) x 6.27"(15.9 cm.) x 1.32" (3.35 cm.) DIMENSIONS: Horn-Strobes: 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 Model SLSPBBC to any Single-Gang Backbox or to 4" (10.2 cm.) Square Box
WIRING TYPE:	#12 – #18, American Wire Gauge (AWG)

III Sound Output Ratings (dBA)

	Reverberant per UL464 @ 10 feet							
Model SL2HC'- and - SL2HSC' Series:^	Setting	SL2HC @ 12VDC	SL2HC & SL2HSC @ 24VDC					
	CONT T3	High dBA	High dBA					
	 T3/T4	80	80					
	CONT T3	Low dBA	Low dBA					
	T3/T4	78	78					

Horn | Output Ratings (UL)

Horn | Output Ratings (ULC)

	ULC Sound Output Ratings (dBA) Anechoic per ULCS525-16 @ 3.05 meters							
Model SL2HC'- and -	Setting	SL2HC @ 12VDC	SL2HC & SL2HSC @ 24VDC					
	CONT T3	High dBA	High dBA					
SL2HSC ² Series: [^]	 T3/T4	85	91					
	CONT T3	Low dBA	Low dBA					
	 T3/T4	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

A For audible appliances, the max current is usually at the maximum listed voltage (16 - 33V for 24V units)
 A For unfiltered FWR ratings, see installation instructions

	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	nom	CEILING	– None –	WHITE	– No Lettering –			
SL2HSCR-A	S54329-F87-A1	Horn-Strobe	CEILING	Clear	RED	AGENT			
SL2HSCW-A	S54329-F92-A1	Tioni-Strobe	CEILING	Clear	WHITE	AGENT			
SL2HSCR-AL	S54329-F88-A1	Llorn Ctrobo	CEILING	Clear	RED	ALERT			
SL2HSCW-AL	S54329-F93-A1	Hom-Strobe	CEILING	Clear	WHITE	ALERT			
SL2HSCR-F	S54329-F89-A1		CEILING	Clear	RED	FIRE			
SL2HSCW-F	S54329-F94-A1	Horn-Strobe	CEILING	Clear	WHITE	FIRE			
SL2HSCR-N	S54329-F90-A1	Llara Chasha	CEILING	Clear	RED	– No Lettering –			
SL2HSCW-N	S54329-F95-A1	Horn-Strobe	CEILING	Clear	WHITE	– No Lettering –			
SL2HSCR-FB	S54329-F91-A1	Llorn Ctrobo	CEILING	Clear	RED	– Pictogram –			
SL2HSCW-FB	S54329-F96-A1	Horn-Strobe	CEILING	Clear	WHITE	– Pictogram –			
SL2SCR-ALA	S54329-F182-A1	01t.	CEILING	Amber	RED	ALERT			
SL2SCW-ALA	S54329-F191-A1	Strobe	CEILING	Amber	WHITE	ALERT			
SL2SCR-NA	S54329-F183-A1	Of solution	CEILING	Amber	RED	– No Lettering –			
SL2SCW-NA	S54329-F192-A1	Strobe	CEILING	Amber	WHITE	– No Lettering –			
SL2SCR-ALB	S54329-F184-A1	Stroke	CEILING	Blue	RED	ALERT			
SL2SCW-ALB	S54329-F193-A1	Strobe	CEILING	Blue	WHITE	ALERT			
SL2SCR-NB	S54329-F185-A1	Charach a	CEILING	Blue	RED	– No Lettering –			
SL2SCW-NB	S54329-F194-A1	Strobe	CEILING	Blue	WHITE	– No Lettering –			
SL2SCR-A	S54329-F186-A1	Straho	CEILING	Clear	RED	AGENT			
SL2SCW-A	S54329-F195-A1	Strobe	CEILING	Clear	WHITE	AGENT			
SL2SCR-AL	S54329-F187-A1	Straha	CEILING	Clear	RED	ALERT			
SL2SCW-AL	S54329-F196-A1	Strobe	CEILING	Clear	WHITE	ALERT			
SL2SCR-F	S54329-F188-A1	Straha	CEILING	Clear	RED	FIRE			
SL2SCW-F	S54329-F198-A1	Strobe	CEILING	Clear	WHITE	FIRE			
SL2SCR-N	S54329-F189-A1	Strobe	CEILING	Clear	RED	– No Lettering –			
SL2SCW-N	S54329-F200-A1	Strobe	CEILING	Clear	WHITE	– No Lettering –			
SL2SCR-FB	S54329-F190-A1	Stroba	CEILING	Clear	RED	– Pictogram –			
SL2SCW-FB	S54329-F201-A1	311000	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	Dackbux	CEILING	– None –	WHITE	– No Lettering –			

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



October - 2023 (Rev. 2)



Notification Appliances

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

Applications : Indoor, Wall / Ceiling-Mount

Architect & Engineer Specifications Product Overview

□ Sophisticated series of notification appliances that meets fire-industry codes and regulations for commercialbuilding 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-ofview
- 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



Siemens Smart Infrastructure – Building Products

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.





Data Sheet 2604 usa.siemens.com/fire

Mounting Diagrams



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-pulseduration 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 prewired mounting plate for faster and easier installation. Each model has a built-in level adjustment feature and a snapon 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)

Reverberant per UL1480 dBA (Watts) @ 10 feet									
Models	Setting 1/8 Watts 1/4 Watts 1/2 Watts 1 Watts 2 Watt					2 Watts	5 Watts		
'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									
Models	Setting	etting 1/8 Watts 1/4 Watts 1/2 Watts 1 Watts 2 Watts 5 Wa							
'SL2SPW' Series:	25V	75	79	82	85	87			
'SL2SPSW' Series:	70V	75	79	82	85		87		

Wall-Mount | Strobe Output Current Draw

Current Ratings (in Amps)** RMS Current @ 24 Volts DC									
Model 'SL2SPSW' Series:^	Regulated Voltage Range	15cd	30cd	75cd	110cd	135cd	185cd		
	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

Ceiling	-Mount	Speaker	Output	Ratings	(1)]	/U(C)
cennig	wount	Speaker	output	naungs	(OL	/OLC/

Reverberant per UL1480 dBA (Watts) @ 10 feet									
Models	Setting	¹ / ₈ Watts	1/4 Watts	¹ / ₂ Watts	1 Watts	2 Watts	5 Watts		
'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									
Models	Setting	¹ /8 Watts	¹ / ₄ Watts	¹ / ₂ Watts	1 Watts	2 Watts	5 Watts		
'SL2SPC' Series:	25V	75	79	82	85	87			
'SL2SPSC' Series:	70V	75	79	82	85		87		

Ceiling-Mount | Strobe Output Current Draw

Current Ratings (in Amps)** RMS Current @ 24 Volts DC								
Model	Regulated Voltage Range	15cd	30cd	75cd	110cd	150cd	177cd	
'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.

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.

Technic				
GENI	ERAL PROPERTIES (SL2-Series)			
OPERATING TEMPERATURE:	 32°F (0°C) to 122°F (50°C) for indoor applications only 			
RELATIVE HUMIDITY:	93%, maximum			
OPERATING VOLTAGE RANGES:	 25 / 70 VRMS field-selectable power taps: 1/8 Watt to 5 Watts 			
STROBE OUTPUT RATING:	 UL 1638, UL1971, ULC-S526-16 Field-selectable Candela outputs: [Wall-mount Appliances] 15cd 30cd 75cd 110cd 135cd 185cd [Ceiling-mount Appliances] 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 Siemens PAD-series NAC extenders Siemens dual-sync (DSC) modules, which provide the unique Siemens proprietary synchronization protocol 			
FREQUENCY RANGE:	- 300 Hz to 8000 Hz.			

al D	l Data						
	PHYSICAL PROPERTIES (SL2-Series)						
	MATERIAL:	 White-or-red textured, ultraviolet (UV) stabilized, colored impregnated engineered plastic Exceeds 94V-0 UL flammability rating 					
WEIGUT		Speaker-Strobe:	1.54 Lbs. (0.7 Kg.)				
	WEIGHT	Speaker Backbox:	0.44 Lb. (0.2 Kg.)				
	LENS TYPE:	LED strobe situated in a rugged Lexan lens					
	DIMENSIONS:	<u>`SL2SPW' & SL2SPSW'</u> <u>Series</u> 6.35" (15.5 cm.) (H) 4.56" (11.6 cm.) (W) 1.54" (3.9 cm.) (D)	<u>`SL2SPC' & `SL2SPSC'</u> <u>Series:</u> 6.27" (15.9 cm.) x 6.27" (15.9 cm.) x 2.29" (5.8 cm.)				

MOUNTING AND WIRING PROPERTIES (SL2-Series)									
	Wall-Mount Appliances	Ceiling-Mount Appliances							
INDOOR Mounting:	Model SL2SPBB backbox or to 4" (10.2 cm.) square box with trim plate and separately ordered mud-ring	Model SLSPBBC backbox or to 4" (10.2 cm.) square box							
WIRING TYPE:	#12 – #18, American Wire Gaug	#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	Creaker	WALL	– None –	RED	ALERT	
SL2SPWW-AL	S54329-F151-A1	Speaker	WALL	– None –	WHITE	ALERT	
SL2SPWR-F	S54329-F149-A1	Graakar	WALL	– None –	RED	FIRE	
SL2SPWW-F	S54329-F152-A1	Speaker	WALL	– None –	WHITE	FIRE	
SL2SPWR-N	S54329-F150-A1	Graakar	WALL	– None –	RED	- NO LETTERING -	
SL2SPWW-N	S54329-F153-A1	Speaker	WALL	– None –	WHITE	– NO LETTERING –	
SL2SPSWR-ALA	S54329-F168-A1	Smaakar Straha	WALL	Amber	RED	ALERT	
SL2SPSWW-ALA	S54329-F175-A1	Speaker-Strobe	WALL	Amber	WHITE	ALERT	
SL2SPSWR-NA	S54329-F169-A1	Speaker Stroke	WALL	Amber	RED	– NO LETTERING –	
SL2SPSWW-NA	S54329-F176-A1	Speaker-Strobe	WALL	Amber	WHITE	- NO LETTERING -	
SL2SPSWR-AL	S54329-F170-A1	Snacker Strobe	WALL	Clear	RED	ALERT	
SL2SPSWW-AL	S54329-F177-A1	Speaker-Strobe	WALL	Clear	WHITE	ALERT	
SL2SPSWR-M	S54329-F171-A1	Snacker Strake	WALL	Clear	RED	EMERGENCY	
SL2SPSWW-M	S54329-F178-A1	Speaker-Strobe	WALL	Clear	WHITE	EMERGENCY	
SL2SPSWR-F	S54329-F172-A1	On a share Of a share	WALL	Clear	RED	FIRE	
SL2SPSWW-F	S54329-F179-A1	Speaker-Strobe	WALL	Clear	WHITE	FIRE	
SL2SPSWR-N	S54329-F173-A1	Snacker Strebe	WALL	Clear	RED	- NO LETTERING -	
SL2SPSWW-N	S54329-F180-A1	Speaker-Strobe	WALL	Clear	WHITE	– NO LETTERING –	
SL2SPSWR-FB	S54329-F174-A1	Speaker Strebe	WALL	Clear	RED	PICTOGRAM	
SL2SPWW-FB	S54329-F181-A1	Speaker-Strobe	WALL	Clear	WHITE	PICTOGRAM	
SL2SPBB-W	S54329-F223-A1	Deekhey	WALL	None	WHITE	- NO LETTERING -	
SL2SPBB-R	S54329-F224-A1	Backbox	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	Creation	CEILING	– None –	RED	ALERT
SL2SPCW-AL	S54329-F144-A1	Speaker	CEILING	– None –	WHITE	ALERT
SL2SPCR-F	S54329-F142-A1	Creation	CEILING	– None –	RED	FIRE
SL2SPCW-F	S54329-F146-A1	Speaker	CEILING	– None –	WHITE	FIRE
SL2SPCR-N	S54329-F143-A1	Speaker	CEILING	– None –	RED	- NO LETTERING -
SL2SPCW-N	S54329-F147-A1	Speaker	CEILING	– None –	WHITE	– NO LETTERING –
SL2SPCW-A	S54329-F145-A1	Speaker	CEILING	– None –	WHITE	AGENT
SL2SPSCR-ALA	S54329-F154-A1	o	CEILING	Amber	RED	ALERT
SL2SPSCW-ALA	S54329-F161-A1	Speaker-Strobe	CEILING	Amber	WHITE	ALERT
SL2SPSCR-NA	S54329-F155-A1	Snookar Stroka	CEILING	Amber	RED	- NO LETTERING -
SL2SPSCW-NA	S54329-F162-A1	Speaker-Strobe	CEILING	Amber	WHITE	– NO LETTERING –
SL2SPSCR-A	S54329-F156-A1	Snookar Stroka	CEILING	Clear	RED	AGENT
SL2SPSCW-A	S54329-F163-A1	Speaker-Strobe	CEILING	Clear	WHITE	AGENT
SL2SPSCR-AL	S54329-F157-A1	Snookar Stroka	CEILING	Clear	RED	ALERT
SL2SPSCW-AL	S54329-F164-A1	Speaker-Strobe	CEILING	Clear	WHITE	ALERT
SL2SPSCR-F	S54329-F158-A1	Carachan Chacha	CEILING	Clear	RED	FIRE
SL2SPSCW-F	S54329-F165-A1	Speaker-Strobe	CEILING	Clear	WHITE	FIRE
SL2SPSCR-N	S54329-F159-A1	Smacker Strake	CEILING	Clear	RED	- NO LETTERING -
SL2SPSCW-N	S54329-F166-A1	Speaker-Strobe	CEILING	Clear	WHITE	– NO LETTERING –
SL2SPSCR-FB	S54329-F160-A1	Smaakan Strake	CEILING	Clear	RED	PICTOGRTAM
SL2SPSCW-FB	S54329-F167-A1	Speaker-Strobe	CEILING	Clear	WHITE	PICTOGRAM
SLSPBBCR	S54329-F55-A1	Deakhay	CEILING	None	RED	- NO LETTERING -
SLSPBBCW	S54329-F55-A2	Васкрох	CEILING	None	WHITE	- NO LETTERING -

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

> April - 2024 (Rev 3)



SIEMENS

Notification Appliances

'SL2' Series – Horns | Strobes | Horn-Strobes Applications: Indoor, Wall-Only

Architect & Engineer Specifications

Product Overview

- 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



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-pulseduration 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.





Strobe

FIRE

Model SL2HSWW-F Horn-Strobe

Data Sheet 2601 usa.siemens.com/fire

Wiring Diagrams



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 <u>existing</u> 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

Technical Data

norm Subbes Supple current Brutt										
	Current Ratings (Amps @ 24V) HIGH dB									
Model	Setting	15cd	30cd	75cd	110cd	135cd	185cd			
SL2HS'	CONT									
Series:"	T3	0.037	0.046	0.077	0.109	0.146	0.208			
	13/14									
	Current Ratings (Amps @ 24V) LOW dB									
Model	Setting	15cd	30cd	75cd	110cd	135cd	185cd			
SL2HS'	CONT									
Series:^	T3	0.030	0.039	0.070	0.102	0.139	0.201			
	T3/T4									

Horn-Strobes | Output Current Draw

Horn-Only | Output Current Draw

Current Ratings (Amps) RMS Current @ 24VDC						
Model	Regulated Voltage Range	High	Low			
'SL2H' Series:^	12VDC (8-17.5V)	0.025	0.020			
ocnes.	24VDC (16-33V)	0.028	0.021			

Strobe-Only | Output Current Draw

Current Ratings (Amps)									
	Regulated Voltage Range								
Model SL2S'	10	6.0 - 33.0	VDC	16.0 – 33.0 VRMS					
Series:^	15cd	30cd	75cd	110cd	135cd	185cd			
	0.022	0.030	0.060	0.086	0.125	0.185			

Horn | Output Ratings (UL)

	UL Sound Output Ratings (dBA) Reverberant per UL464 @ 10 feet						
Model	Setting	SL2HW @ 12VDC	SL2HW & SL2HSW @ 24VDC				
and –	CONT T3	High dBA	High dBA				
SL2HSW ² Series: [^]	 T3/T4	80	80				
	CONT T3	Low dBA	Low dBA				
	T3/T4	78	78				

Horn | Output Ratings (ULC)

	ULC Sound Output Ratings (dBA) Anechoic per ULCS525-16 @ 3.05 meters			
Model	Setting	SL2HW @ 12VDC	SL2HW & SL2HSW @ 24VDC	
SL2HW'- and - SL2HSW' Series:^	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) for indoor use only 			
RELATIVE HUMIDITY:	93%, maximum			
OPERATING VOLTAGE RANGES:	12 VDC / VFWR → 8.0 - 17.5 V 24 VDC / VFWR → 16.0 - 33.0 V (12 VDC for Model SL2HW only)			
STROBE OUTPUT RATING:	 UL 1638, 1971 ULC-S526-16 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 Siemens PAD-series NAC extenders Siemens Dual-Sync (DSC) modules, which provide the unique Siemens proprietary synchronization protocol 			
TEMPORAL PATTERN:	 Continuous 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) 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					
	Exceeds 94V-0 OL fiami				
WEIGHT:	0.35 Lbs.	(0.16 Kg.)			
LENS TYPE:	LED strobe situated in	n a rugged Lexan lens			
DIMENSIONS:	Actual Appliance: Single-Gang Trim Plate 4.79" (12.1 cm.) [H] 5.25" (13.3 cm.) [H] 2.76" (7.0 cm.) [W] 4.58" (11.6 cm.) [W] 1.18" (2.9 cm.) [D] 0.32" (0.81 cm.) [D]				

Mounting and Wiring Properties

	MODEL `SL2'series			
indoor Mounting:	 Wall-mount applications 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	llarm	WALL	– None –	RED	– No Lettering –
SL2HWW-N	S54329-F86-A1	попі	WALL	– None –	WHITE	– No Lettering –
SL2HSWR-A	S54329-F97-A1		WALL	Clear	RED	AGENT
SL2HSWW-A	S54329-F102-A1	Horn-Strobe	WALL	Clear	WHITE	AGENT
SL2HSWR-AL	S54329-F98-A1		WALL	Clear	RED	ALERT
SL2HSWW-AL	S54329-F103-A1	Horn-Strobe	WALL	Clear	WHITE	ALERT
SL2HSWR-F	S54329-F99-A1	Liena Otraka	WALL	Clear	RED	FIRE
SL2HSWW-F	S54329-F105-A1	Horn-Strobe	WALL	Clear	WHITE	FIRE
SL2HSWR-N	S54329-F100-A1	Horn Strobo	WALL	Clear	RED	– No Lettering –
SL2HSWW-N	S54329-F106-A1	Holli-Strobe	WALL	Clear	WHITE	– No Lettering –
SL2HSWR-FB	S54329-F101-A1	Horn-Strobe	WALL	Clear	RED	– Pictogram –
SL2HSWW-FB	S54329-F107-A1	Tiom-Strobe	WALL	Clear	WHITE	– Pictogram –
SL2HSWW-EV	S54329-F104-A1	Horn-strobe	WALL	Clear	WHITE	Evacuation
SL2SWR-ALA	S54329-F202-A1	Ctraha	WALL	Amber	RED	ALERT
SL2SWW-ALA	S54329-F211-A1	Strobe	WALL	Amber	WHITE	ALERT
SL2SWR-NA	S54329-F203-A1	Strobo	WALL	Amber	RED	– No Lettering –
SL2SWW-NA	S54329-F212-A1	Strobe	WALL	Amber	WHITE	– No Lettering –
SL2SWR-ALB	S54329-F204-A1	Strobo	WALL	Blue	RED	ALERT
SL2SWW-ALB	S54329-F213-A1	311000	WALL	Blue	WHITE	ALERT
SL2SWR-NB	S54329-F205-A1	Strobe	WALL	Blue	RED	- No Lettering -
SL2SWW-NB	S54329-F214-A1	311000	WALL	Blue	WHITE	– No Lettering –
SL2SWR-A	S54329-F206-A1	Strobo	WALL	Clear	RED	AGENT
SL2SWW-A	S54329-F215-A1	Strobe	WALL	Clear	WHITE	AGENT
SL2SWR-AL	S54329-F207-A1	Strobe	WALL	Clear	RED	ALERT
SL2SWW-AL	S54329-F216-A1	Ollobe	WALL	Clear	WHITE	ALERT
SL2SWR-F	S54329-F208-A1	Strobe	WALL	Clear	RED	FIRE
SL2SWW-F	S54329-F218-A1	Strobe	WALL	Clear	WHITE	FIRE
SL2SWR-N	S54329-F209-A1	Strobe	WALL	Clear	RED	– No Lettering –
SL2SWW-N	S54329-F219-A1	Oliobe	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	Dealthau	WALL	– None –	RED	- No Lettering -
SL2SBB-W	S54329-F222-A1	Backbox	WALL	– None –	WHITE	– No Lettering –

<u>NOTICE</u> - 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 Industry, Inc. Smart Infrastructure – Building Products 2 Gatehall Drive • Parsippany, NJ 07054 Tel: (973) 593-2600



October - 2023 (Rev. 2)



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











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

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 8WI	121/	0.8AH	WI	3.78	0.98	2 44
DURA12-1 3F	121/	1 2AH	F1	3.82	1 69	2.28
DURA12-2 3F	121/	2.3AH	F1	7.01	1.34	2.60
DURA12-2.9F	121/	2.9AH	F1	3 11	2 20	4 13
DURA12-3 3F	121/	3.2AH	F1	5.28	2.20	2.64
DURA12-3.3F2	121/	3.2AH	F2	5.28	2.64	2.64
DURA12-5E	121/	54H	F1	3.54	2.04	4 13
DURA12-5F2	121/	5AH	F2	3.54	2.76	4.13
DURA12-512	121/	5AH	F1 (neg) F2 (nos)	5.51	1.80	4.15
DURA12-7E	121/	7AH	F1	5.94	2.56	3.04
	121/	71	E2	5.94	2.50	3.04
	121/		F1	5.94	2.50	3.94
	121/	0ALL	E2	5.94	2.50	2.04
	121/			5.94	2.50	3.94
	121/		E2	5.94	2.50	2.04
DURA 12-9F2	121		FZ NR	5.94	2.50	3.94
DURA 12-9NB	121	9An 10AU		5.94	2.50	4.17
DURA12-10F2	121		F2	5.94	2.00	4.07
	120		FZ	5.94	3.00	3.00
	120	12AH 12AU		5.94	3.80	4.09
DURA12-12F	120			5.94	3.00	3.00
DURA12-13NB	120	13AH	NB F2	5.24	3.07	0.22
DURA12-14F2	120	14AH	F2	5.94	3.88	3.98
DURA12-18C/FR	120	18AH	C	7.14	3.03	6.59
DURA12-18F2	120		FZ	7.13	3.03	0.59
	120		INB	7.13	3.03	0.59
DURA12-26NB	12V	26AH	NB	6.54	6.89	4.92
DURA12-33C	120	33AH		7.72	5.12	0.01
	120	33AH	J	7.72	5.12	1.09
DURA12-35C	120	36AH	0	7.72	5.12	0.05
DURA12-44C/FR	12V	44AH	C	1.12	6.50	6.89
DURA12-55P	12V	55AH	Р	9.06	5.43	9.11
DURA12-55C/FR	12V	58AH	C	9.02	5.43	8.50
DURA12-80P	12V	80AH	Р	10.24	6.61	9.15
DURA12-80C/FR	12V	79AH	С	10.20	6.65	8.50
DURA12-100C/FR	12V	107.6AH	С	12.09	6.61	8.43
DURA12-140C/FR	12V	140AH	С	13.50	6.73	11.02

* MARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

Questions About Products? batteriesplus.com | 1-800-677-8278

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0

+ Battery height includes terminals

BatteriesPlus Power it. Light it. Fix it.



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

Applications

- RS-422 Networks
- Telecommunications Base Stations
- WISP/ISP
- IT & Data Centers

- · Dedicated Ground Stud
- Wall Mount
- _ . . . _
- Point-to-Point LinksControl 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 Loop	DS	
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	А
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 Width Depth Weight	2.2 in[55.88 mm]3.16 in[80.26 mm]1.44 in[36.58 mm]0.2 lbs[90.72 g]
Environmental Specifications Operating Temperature Storage Temperature	-40 to +85 deg C -40 to +85 deg C
Mount Type Grounding	Wall 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

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Transtector reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Transtector does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Transtector does not assume any liability arising out of the use of any part or documentation.



1101-372-4 CAD Drawing





PULL STATION SERIES DIE-CAST METAL MANUAL PULL STATIONS



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

Ordering Information

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.

- 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.

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.

-	0	-0	
Туре	Model Number	Stock Number	Contact Type
	P32-1T	1000447	SPST
	RMS-2T	1000477	DPST
Single Action	RMS-6T	1000478	DPDT
	RMS-1T-KL	1000451	SPST
	RMS-1T-KO	1000450	SPST, key operated, no pull
Weather Proof	RMS-1T-WP	1000401	
Dual Action	P32-1T-LP	1000476	SPST
Weather Proof Dual Action	RMS-1T-WP-LP	1000403	
Accessories			Notes
Dual Action	RMS-LP	1000480	Converts single action to dual action
Back Box	Р32-ВВ	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)

Potter Electric Signal Co., LLC • St. Louis, MO • Cust Service: 866-240-1870 • Tech Support: 866-956-1211 • Canada 888-882-1833 • www.pottersignal.com



Data Surge Protector SPD CP Indoor CATV Repeaters/Amplifiers Wire Nut SASD

1100-988-1 CP2297

Features

- 100% SASD Protection
- · Wired Lead Connectivity

Applications

- CATV Repeaters/Amplifiers Networks
- Telecommunications Base Stations
- WISP/ISP
- IT & Data Centers

Wall Mount

- 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





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 ar	nd 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

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Transtector reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Transtector does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Transtector does not assume any liability arising out of the use of any part or documentation.

1100-988-1 CAD Drawing





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

Applications

- · Electrical Panelboards
- Industrial Automation
- Communications Base Stations
- · IT & Data Centers
- · Switchgear
- Motor Control Centers

- Hard-Wired
- Wall Mount
- · 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	nt Rating		15	A
Maximum Continuous Operatin	g 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

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AC Surge Protector SPD CP Plug-In 120 Vac Single-Phase 15 A SASD 10 kA, UL 94-V0

1101-010 ACP 2341



Size Height



ns

5 **Mechanical Specifications** 6.5 in [165.1 mm]

vvidtn	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

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1101-010 CAD Drawing

