SIEMENS

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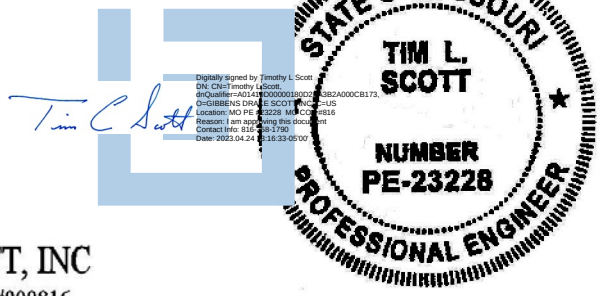
Submittal Date
APRIL 24, 2023

LEE'S SUMMIT MEDICAL CENTER - ICU EXPANSION

2100 SE BLUE PARKWAY
LEE'S SUMMIT, MISSOURI 64063

44OP-331118



4-24-2023

TIM L. SCOTT
LICENSE # E-23228

GIBBENS DRAKE SCOTT, INC
Missouri State Certificate of Authority #000816
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RAYTOWN, MISSOURI 64133

ENGINEERING

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SIEMENS

Building Technologies
Fire Safety

PREPARED FOR:

LEE'S SUMMIT MEDICAL CENTER - ICU EXPANSION , MISSOURI

2100 SE BLUE PARKWAY
LEE'S SUMMIT, MISSOURI 64063

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PREPARED FOR:

LEE'S SUMMIT MEDICAL CENTER - ICU EXPANSION , MISSOURI

2100 SE BLUE PARKWAY
LEE'S SUMMIT, MISSOURI 64063

FIRE ALARM SYSTEM BILL OF MATERIAL

QTY.	MODEL #	DESCRIPTION	CATALOG NUMBER	PART NUMBER
		PANEL BACKBOXES		
1	PAD-4-9A	P/S NAC Extender 9 Amps	3363	S54339-A3-A1
		INITIATING DEVICES		
7	DB-11	Detector Base Assembly	6161	500-094151
7	FDOOT441	Dual Optical / Heat Detector	6154	S54320-F7-A1
2	FDBZ492	Duct Housing	6156	S54319-B22-A1
2	ST-100	ST-100 10 Foot Sampling Tube	6156	500-649713
2	FDO421	Optical Smoke Detector	6152	S54320-F4-A1
2	TSM-1X	Intelligent Remote Test Switch, Tri-color LED w/ Isolator	6198	S54370-B7-A1
1	XMS-D	Manual Station - Dual Action	6364	S54321-F8-A1
1	XTRI-D	Dual Input Monitor Module with Built-In Isolator	6167	S54370-B2-A1
5	XTRI-R	Single Input Monitor Module with Relay w/ Isolator	6167	S54370-B1-A1
		NOTIFICATION APPLIANCES		
2	AS-HMC-R-WP	AS Horn Hi Multi Candela Wall Red	2578	500-636183
8	CH-MC-W	Chime Multi Candela White	2572	500-636018
2	WBBS-R	Weatherproof Back Box Red	2585	500-636129
		MISC.		
4	DH24120FC	Door Holder Semi Flush Mt	DHS	DH24120FC
2	PS1270	Battery 7AH	PS	PS1270

SIEMENS

Data Sheet
Fire Safety Products

FACP Accessories

PAD-4 Distributed Power Supply Unit [for ®UL markets]

Notification Appliance Circuit Extender

Models PAD-4-ENCL, PAD-4-MB (with FP2011-U1, FP2012-U1 power supplies)

ARCHITECT AND ENGINEER SPECIFICATIONS

- **Four (4) 'Class B', power-limited notification appliance circuits (NACs)**
- **`Class A', field-selectable wiring**
  - Each unit can support an optional module (Model PAD-4-CLSA) that converts two (2) built-in 'Class A' NACs into four (4) 'Class A' NACs
- **Up to 3 Amps of auxiliary-power output**
- **Optional built-in strobe synchronization**
  - Supports coded audible signals, including Temporal 3, Temporal 4 patterns
- **Battery supervision and control**
- **'Form C' general Trouble / AC Fail monitoring contact**
- **Power supplies support NAC power**
  - Up to 6A used with Model FP2011-U1
  - Up to 9A used with Model FP2012-U1
- **24VDC output voltage**
- **Ground-fault detection**
- **Advanced microprocessor control**
- **Uses Flash memory-based system firmware**
  - Optional system-diagnostic and firmware-upgrade tool

`Class A' Adapter Card
[Model PAD-4-CLSA]

Main Board
[Model PAD-4-MB]

Unit Enclosure
[Model PAD-4-ENCL]

- **Multi-module mounting in System 3™ enclosures**
  - Multiple modules share battery set
- **ADA Compliant**
- **®UL 864 9th Edition Listed, ®UL 1481 Listed; FM (#3010), CSFM (#7315-0067:0268) Approved**

Product Overview

Used with Siemens – Fire Safety fire alarm control panels (FACPs), the Distributed Power Supply PAD-4 Unit is a NAC expander with a built-in, auxiliary-power output. Each PAD-4 unit distributes additional power in buildings for audible and visual indicators that conform to the Americans with Disabilities Act (ADA). PAD-4 also has the following features:

- NACs
- Signal-input circuits
- Battery-charging circuit
- *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.

The PAD-4 unit provides constant 24VDC output voltage to each NAC – independent of voltage fluctuations on the primary or secondary power source. As a result, a larger voltage drop and a greater wire length for each NAC are supported by each PAD-4.

Specifications

This version of the Siemens Distributed Power Supply Unit 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]

There are also two (2) inputs used to control the activation of the four (4) outputs. Programming can be set so one (1) input will silence the audible signal on Siemens Models 'AS'-series, 'NS'-series, or 'ZH'-series horn and horn-strobes while the strobes remain active.

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Building Technologies Division

Specifications – (continued)

Operation of each PAD-4 unit is controlled by firmware stored in Flash memory on the main board, as well as the storage of a 10-event log, which can be viewed via Model PAD-4-FDT. In the event that an upgrade to the system firmware is required, the firmware can be transferred to the system without the replacement of firmware chips.

An optional firmware-download software tool, Model PAD-4-FDT, can be used for system-diagnostic testing of the following:

- Primary-power voltage readouts
- Current draw for power charger
- Configuration switch settings
- Firmware version
- Battery voltage

When the tool is in communication with Model PAD-4-MB, the 'Test Mode' LED is illuminated. Model PAD-4-LUA is a USB serial port adapter that is required for tool-kit operation.

Each NAC extender supervises a variety of functions including:

- Low AC power
- Battery-voltage level
- Earth ground-fault conditions

All power can be directed to two (2) 'Class A' or four (4) 'Class B' power-limited NACs. Each NAC supports up to 3 Amps per circuit. Either one (1) or two (2) inputs can control four (4) outputs, which are compatible with all Siemens – Fire Safety 24VDC alarm signaling devices.

In cases where 'Class A' circuits are used, an optional Model PAD-4-CLSA module can be added, providing two (2) additional 'Class A' outputs to each PAD-4 unit.

Each NAC extender is also capable of operating other parts of a Siemens fire alarm system, such as door holders, via 3 Amps @ 24VDC max of power-limited auxiliary output. When the output activated, the total power available cannot exceed 6 Amps when used with Models FP2011-U1 or 9 Amps when used with FP2012-U1.

Trouble conditions are monitored through each unit's two (2) inputs. In addition, one (1) 'Form C' *Trouble* contact is provided for monitoring each unit that is connected through the input of a Siemens FACP. Therefore, the user has the option of connecting a PAD-4 NAC extender unit into a NAC of a Siemens FACP, or the unit may be monitored with a Model TRI-series monitoring module on a Siemens intelligent fire system.

A separate 'Form C' *Trouble* contact is used exclusively with each NAC extender to indicate *AC Fail Trouble* events on the NAC extender.

Each unit is packaged in its own sheet-metal enclosure with sufficient space to house up to 7AH battery sets. The enclosure (Model PAD-4-ENCL) is available in red.

The battery charger used in each unit can energize batteries of up to 18AH. Though, when battery sets greater than 7AH are required, the battery set must be housed in a System 3 enclosure or a separate ®UL Listed battery enclosure.

System 3 enclosures may also be used to house multiple Model PAD-4 units in a single enclosure, via the Model S3AP Adapter Plate. Two (2) units are capable of sharing the same battery set when mounted in the same enclosure. Model S3AP can also be used to mount the PAD-4 main board and 170-Watt power supply (Model FP2011-U1) into a PAD-3 enclosure.

Each Model PAD-4 unit complies with seismic certification, pursuant to the following:

- ASCE Standard 7, 2005 Edition
- International Building Code, 2006 Edition
- California Building Code, 2007 Edition
- ICC-ES AC 156, effective 2007
- OSHPD preapproved, under: OSP-0057-10
  - OSHPD CAN 2-1708A.5, Rev. 3

Each Model PAD-4-series unit also complies with seismic certification, pursuant to ASC / SEI 7-05, Section 13.2.2, when used with the PAD-4 battery bracket (Model PAD4-BATT-BRKT).

Configuration Options

Option	Input[s]	Output Controls	Circuit Types
1	Input 1	All outputs	'Class B' circuits
2	Input 1	All outputs	'Class B' circuits
	Input 2*	Silences horns on Output 1	—
3	Input 1	Outputs 1 and 2	'Class B' circuits
	Input 2	Outputs 3 and 4	'Class B' circuits
4	Input 1	Output 1	'Class B' circuits
	Input 2	Outputs 2, 3 and 4	'Class B' circuits
5	Input 1	Outputs 1 through 4	'Class A' circuit pairs
6	Input 1	Outputs 1 through 4	'Class A' circuit pairs
	Input 2*	Silences horns on Output 1	—
7	Input 1	Outputs 1 and 2	'Class A' circuit pairs
	Input 2	Outputs 3 and 4	'Class A' circuit pairs

** denotes when used with Siemens Model 'AS',' NS' or 'ZH'–series horn / strobe devices*

Indicator Lights

AC Power ON:	**Green**
AUX / PS:	**Yellow**
Ground Fault:	**Yellow**
Output 1 *Trouble*:	**Yellow**
Output 2 *Trouble*:	**Yellow**
Output 3 *Trouble*:	**Yellow**
Output 4 *Trouble*:	**Yellow**

Test Mode:	**Yellow**

Technical Data

***AC Fail Trouble* Contact Rating:** { 'Form A' – Normally Closed (N.C) }	2.0A @ 30VDC, max. **[resistive]**
Basic *Trouble* Contact Rating: { 'Form C' }	2.0A @ 30VDC, max. **[resistive]**
***Alarm* Current:** **{ for NACs and auxiliary power }**	3.0A per circuit, max. **6A, max. {via Model FP2011-U1}** **9A, max. {via Model FP2012-U1}**
Ambient Temperature:	32° – 120° F (0° – 49° C)
Relative Humidity:	Up to 93% @ 86° F (30° C); non-condensing
Auxiliary Power Circuit:	One (1) circuit @ 3A max.
Battery Charging Capacity:	18AH
Input Circuits / Configurations:	Two (2) 'Class B' supervised or Two (2) 'Class A' supervised
Input Current:	7.0mA, max.
Input Voltage Range:	16 – 33VDC / VFW
Installation Environment:	Indoor, dry
NACs:	○ Supervised, power-limited ○ 1.0mA standby current, max. ○ Four (4) circuits ○ 2K ohms (+), 8K ohms (-)
Total Output Power:	24VDC @ 6 Amps (with Model FP2011-U1); 24VDC @ 9 Amps (with Model FP2012-U1)
Output Circuits / Configurations:	○ Two (2) 'Class A'; – Up to four (4) 'Class A' (via Model PAD-4-CLSA) ○ Four (4) 'Class B'; ○ One (1) Class A, Two (2) Class B;
Single-Unit Dimensions: { W -x- H -x- D } **Model PAD-4-ENCL**	13.5" –x– 18.75" –x– 3.25" (34.3 cm. -x- 47.6 cm. -x- 8.3 cm.)
Color: **Model PAD-4-ENCL**	Red

Temperature and Humidity Range

Each PAD-4 Distributed Power Supply Unit is ®UL 864 9th Edition Listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

Details for Ordering

Model	Part Number	Description
PAD-4-ENCL	500-050081	PAD-unit enclosure
PAD-4-MB	500-650217	PAD-unit main board
FP2011-U1	500-450222	170-Watt power supply
FP2012-U1	S54400-Z60-A1	300-Watt power supply

— System Kits —

Model	Part Number	Description
PAD4-6A	S54339-A1-A1	**Complete 6A PAD-4 kit *with*:** – One (1) Unit Enclosure, PAD-4-ENCL – One (1) Main Board, PAD-4-MB – One (1) 170W power supply, FP2011-U1
PAD4-6A-CLSA	S54339-A2-A1	**Complete 6A PAD-4 kit *with*:** – One (1) Unit Enclosure, PAD-4-ENCL – One (1) Main Board, PAD-4-MB – One (1) 170W power supply, FP2011-U1 – One (1) 'Class A' Adapter Card, PAD-4-CLSA
PAD4-9A	S54339-A3-A1	**Complete 9A PAD-4 kit *with*:** – One (1) Unit Enclosure, PAD-4-ENCL – One (1) Main Board, PAD-4-MB – One (1) 300W power supply, FP2012-U1
PAD4-9A-CLSA	S54339-A4-A1	**Complete 9A PAD-4 kit *with*:** – One (1) Unit Enclosure, PAD-4-ENCL – One (1) Main Board, PAD-4-MB – One (1) 300W power supply, FP2012-U1 – One (1) 'Class A' Adapter Card, PAD-4-CLSA

— Optional Accessories —

Model	Part Number	Description
PAD4-BATT-BRKT	S54430-B4-A1	Battery bracket for NAC expander
PAD-4-LUA	S54389-C1-A1	PAD-4 Laptop-Upload Adapter
PAD-4-CLSA	500-850254	'Class A' Adapter Card
S3AP	500-650257	PAD-4 NAC expander adapter plate (for use with PAD-3 and System 3 enclosures)

Note: For the data sheet of the PAD-4 NAC Extender sold in Canada, please see document, 3363C.

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

Data Sheet
Fire Safety & Security Products

Specialized Detection Devices

'DB' Series Detector Bases

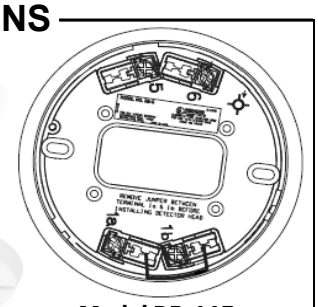
Models DB2-HR, DB-11 and DB-11E

ARCHITECT AND ENGINEER SPECIFICATIONS

- **Each detector base is compatible with Model 'H', "11" and "121" series of conventional detectors**
  - All bases compatible with the optional Model LK-11 detector-locking kit
- **Each detector base also functions with the addressable Model 'H' series, as well as Models FDO421, FDOT421, FDOOT441, FDOOTC441 and FDT421 intelligent devices**
  - Model DB2-HR is also compatible with ASA*technology*™ 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 square, octagon 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**

Model DB2-HR

Model DB-11



Model DB-11E

- **UL 268 Listed, ULC-S529 Listed; FM, CSFM and NYC Fire Department Approved**

Product Overview

The detector bases are low-profile, surface-mounting bases used on 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 those detection devices that operate with ASA*technology*™.

Additionally, Model DB2-HR is backward compatible with the Siemens Model 'H'-series intelligent detectors and detector-assigned FACPs. Model DB2-HR can also operate with Siemens' 50-point addressable; 252-point addressable; 504-point addressable, and FireFinder® XLS fire systems. A relay output from the fire detector base for signaling other devices is provided by Model DB2-HR.

The detector bases use screw-clamp contacts for electrical connections and self-wiping contacts for better 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 the standard bases for Model 'H'-series "11" and Model "121"-series conventional detectors, as well as the Model 'H'-series addressable detectors. Model DB-11 has a 6-inch (15.2 cm) diameter. The diameter for Model DB-11E is 4.5 inches (11.4 cm).

Notes: The Module Barrier (*shown to the right*) must be used when Model DB2-HR relay contacts are connected to non-power-limited circuits. Break apart the barrier to the correct size and shape for either the 4-inch square or double-gang box. Install the barrier diagonally into the back box to create two (2), separate compartments with the back box, in order to separate the wires.

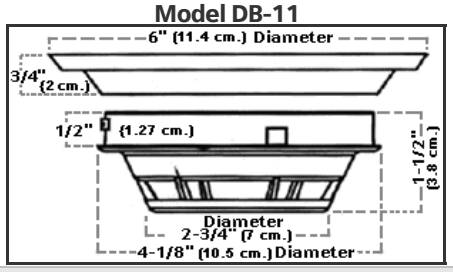
Specifications — (continued)

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.

Dimensions

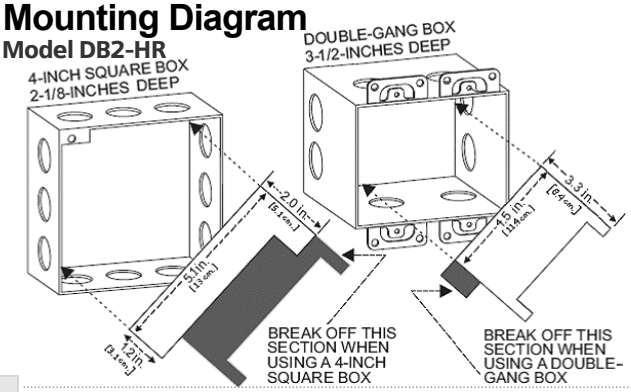
Model DB-11



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

Mounting Diagram

Model DB2-HR



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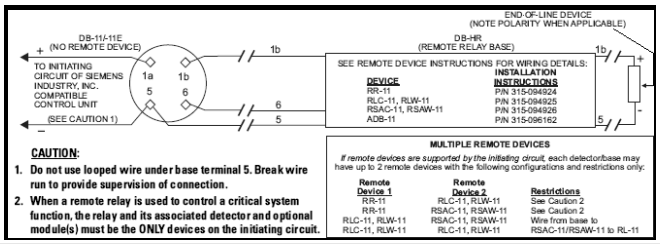
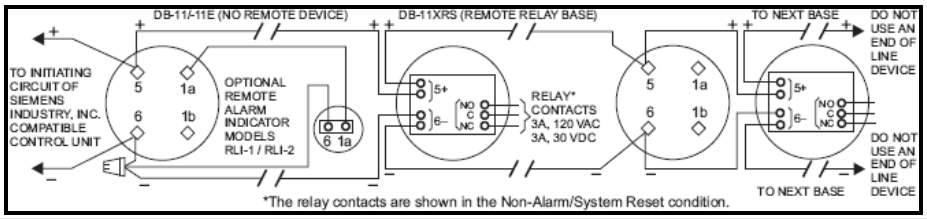
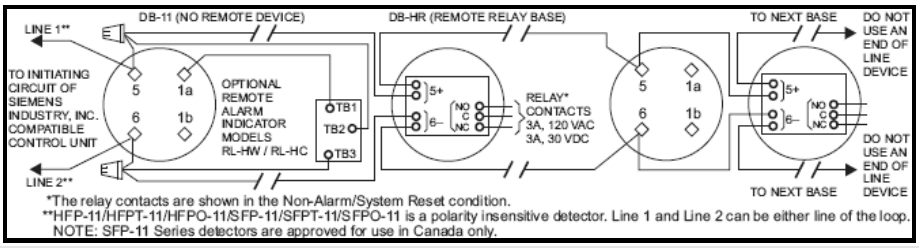
Wiring Diagrams



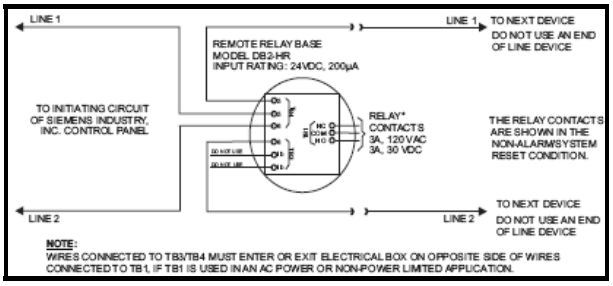
Note: The illustration above is typical wiring for Models DB-11 and DB-11E (using Models PE-11, PE-11T, DT-11, OP121, OH121, and HI121 detectors).



Note: The illustration above is typical wiring for Models DB-11 and DB-11E (using Models FP-11, FPT-11, FS-DP, FS-DPT, and FS-DT detectors).



Note: The illustration above is typical wiring for Models DB-11 and DB-11E (using Models HFP-11 Series and SFP-11 Series detectors).



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

Details for Ordering

Model Number	Part Number	Description
AD2-P	500-649706	Air-Duct Housing
AD2-PR	500-649707	Air-Duct Housing with Relay
DB-11	500-094151	Low-Profile Surface-Mount Base
DB-11C	500-095687	Low-Profile Surface-Mount Base [Canada]
DB-11E	500-094151E	Smaller-Diameter Detector Base
DB-HR	500-033220	Relay Base for 'H'-Series Intelligent Detector
DB2-HR	S54370-F12-A1	Relay base compatible with 'S'-Line and 'C'-line detectors; backwards compatible with Model 'H'-series detectors
DT-11	500-095430	135°F {57.2°C}Low-Profile Thermal Detector
DT-11C	500-095983	Low-Profile Thermal Detector [Canada]
FDO421	S54320-F4-A1	Photoelectric Smoke Detector
FDOT421	S54320-F6-A1	Addressable Multi-Criteria Fire Detector
FDT421	S54320-F5-A1	Thermal (Heat) Detector
FDOOT441	S54320-F7-A1	Multi-Criteria Fire Detector with ASA*technology*™
FDOOTC441	S54320-F8-A1	Multi-Criteria Fire / CO Detector with ASA*technology*™
LK-11	500-695350	Base Locking Kit for Model '11'-series detectors

Model Number	Part Number	Description
FP-11	500-095112	*FirePrint*™ Intelligent Detector
FP-11C	500-095112C	*FirePrint*™ Intelligent Detector [Canada]
FPT-11	500-095918	Thermal Detector
FPT-11C	500-095918C	Thermal Detector [Canada]
HFPO-11	500-034800	FS-250 Addressable Detector
HFP-11	500-033290	*FirePrint*™ Detector
HFPT-11	500-033380	Thermal Detector
HI121	S54372-F3-A1	Heat Detector
OH121	S54372-F2-A1	Multi-Sensor Smoke Detector
OP121	S54372-F1-A1	Photoelectric Smoke Detector
PE-11	500-094150	Conventional Photoelectric Smoke Detector
PE-11T	500-095150	Photoelectric Smoke Detector with 135°F {57.2°C} Thermal Sensor
SFP-11	500-33290C	Photo / Thermal Detector [Canada]
SFPO-11	500-34800C	Photo Detector [Canada]
SFPT-11	500-033380C	Detector Package [Canada]

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SIEMENS
Ingenuity for life

Desigo® Fire Safety
Detectors and Peripherals

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

Model FDOOT441

Architect & Engineer Specifications

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

Product Overview

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

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

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

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

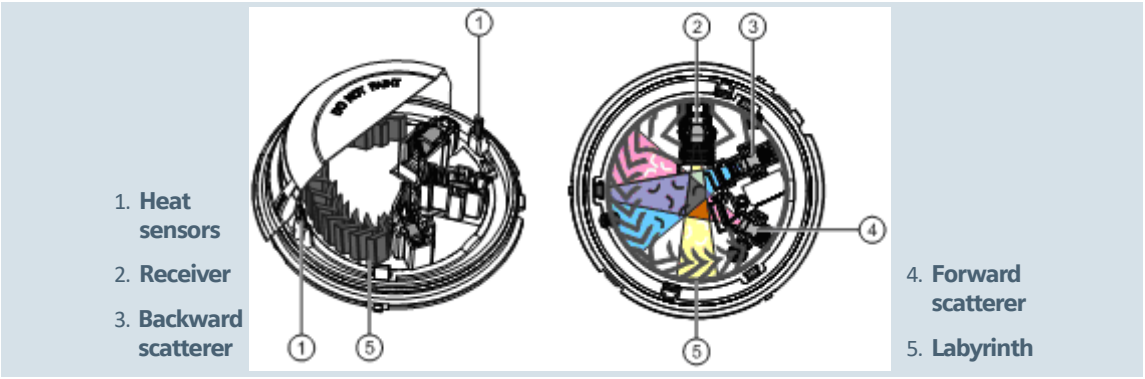
For example, the detector can simultaneously utilize the optical and heat sensors for enhanced multi-criteria fire detection, as well as provide independent outputs for heat detection. Any combination of the sensors is possible.

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

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

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

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



Model FDOOT441
Forward-and-Backward Light-Scattering Technology

Product Overview – (continued)

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

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

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

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

Operation

Forward-and-Backward Light-Scattering Technology

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

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

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

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

Additionally, this scenario generates the following advantages:

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

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

Operation – (continued)

Field-Device Programmer / Test Unit

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

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

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

Field-selectable application profiles

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

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

Field-selectable temperature settings

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

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

Ambient supervisory feature for temperature-threshold ranges

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

Self-monitoring for smoke-sensor sensitivity

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

Profile Overview

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

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

Operation – (continued)

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

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

* denotes LED can be turned OFF

Please follow the corresponding description of the panel used.

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

Installation

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

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

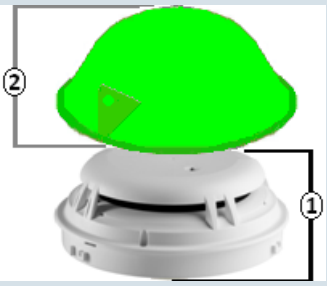
Model FDOOT441 may be installed on the same initiating circuit with the Siemens Model `H'-series detectors [when used with Desigo Fire Safety FACPs] –

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

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

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

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



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

Application Data

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

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

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

Technical Data

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

Thermal Ratings

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

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

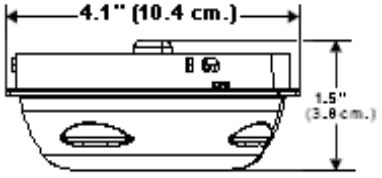
Approvals | Standards

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

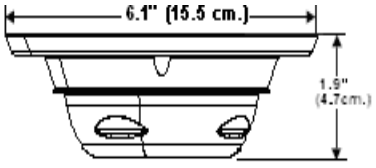
Electrical Ratings

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

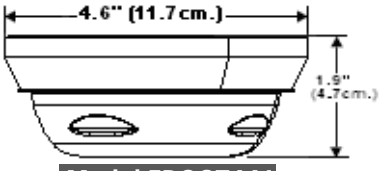
Mounting Diagrams | Dimensions



Model FDOOT441



Model FDOOT441
[with Model DB-11 detector base]



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

Details for Ordering

MODEL OR TYPE	PART NUMBER	PRODUCT
FDOOT441	S54320-F7-A1	Multi-Criteria Fire Detector with ASA*technology*™
DB-11	500-094151	Detector Mounting Base
DB-11E	500-094151E	Detector Base, small
DB2-HR	S54370-F12-A1	Detector Mounting Base with Relay
RL-HC	500-033230	Remote Alarm Indicator: 4" (10.2 cm) octagon-box mount, red
RL-HW	500-033310	Remote Alarm Indicator: single-gang box mount, red
LK-11	500-695350	Base Locking Kit

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

In Canada order:

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

Product Compatibilities

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

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

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

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

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

SIEMENS

Desigo® Fire Safety

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Smart Infrastructure - Building Products
8 Fernwood Road • Florham Park, NJ 07932
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February - 2022
(Rev. 11)

SIEMENS
Ingenuity for life

Desigo® Fire Safety

Specialized Devices

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

Architect & Engineer Specifications

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

Product Overview

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

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

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

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

Specifications

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

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

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

Specifications (cont.)

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

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

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

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

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

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

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

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

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

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

Sampling Tube Selection Table

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

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

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

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

Operation

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

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

*LED can be turned OFF.

Please follow the corresponding description of the panel used.

Technical Data

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

Physical Properties

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

Air Duct Housing Hardware Package

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

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

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

Details for Ordering

Model or Type	Part Number	Description
FDBZ492	S54319-B22-A1	A two-wire addressable or conventional duct detector (without relays) designed for direct use on heating, ventilating and air-conditioning (HVAC) air-duct systems. When equipped, the air-duct detector housing will signal the presence of smoke being carried through the duct system. **For use with the following Models:** ▪ OP121 ▪ FP-11 ▪ HFP-11 ▪ HFPO-11 ▪ PE-11 ▪ FDO421 ▪ FDOOT441 ▪ FDOOTC441 ▪ PE-11C ▪ SFP-11 ▪ SFPO-11
FDBZ492-HR	S54319-B23-A1	A two-wire addressable duct detector (with relays) designed for direct use to HVAC air-duct systems and works with the Remote Test Switch (FDBZ492-RTL). This part has a programmable relay base, and when equipped, the addressable air-duct detector housing will signal the presence of smoke being carried through the duct system. **For use with the following Models:** ▪ FDO421 ▪ FDOOT441 ▪ FDOOTC441 ▪ FP-11 ▪ HFP-11 ▪ HFPO-11 ▪ SFPO-11 ▪ SFP-11
FDBZ492-R	S54319-B24-A1	A two-wire conventional duct detector with relays designed for direct use on HVAC air-duct systems. This detector has a relay base, and when equipped with conventional air-duct housing, will signal the presence of smoke being carried through the duct system. **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:** ▪ FDBZ492 ▪ FDBZ492-R ▪ FDBZ492-HR ▪ FDBZ492-PR
ST-10	500-649710	Sampling tube for Ducts 6" to 1'
ST-25	500-649711	Sampling tube for Ducts over 1' to 3'
ST-50	500-649712	Sampling tube for Ducts 3" to 5'
ST-100	500-649713	Sampling tube for Ducts 5' to 10'

Note: Model names in Red for use in Canada.

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

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

SIEMENS

Desigo®

Siemens Industry, Inc.
Smart Infrastructure - Building Products
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August - 2021
(Rev. 5)

SIEMENS
Ingenuity for life

Desigo® Fire Safety Detectors and Peripherals

Photoelectric Smoke Detector
Model FDO421

Architect & Engineer Specifications

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

Product Overview

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

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

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

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

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

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

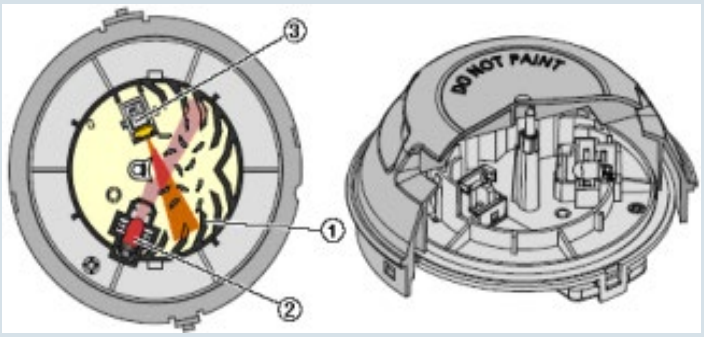
Operation

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

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

Model FDO421
Photoelectric Smoke Detector

1. Labyrinth
2. Optical transmitter
3. Optical receiver



Model FDO421

1. Dust cover
2. Photoelectric smoke detector

Sensitivity Settings

Application Parameter Sets

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

- Standard
- Air-duct

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

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

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

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

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

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

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

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

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

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

Installation

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

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

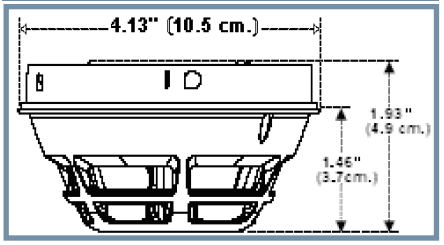
Model FDO421 may be installed on the same initiating circuit with the Siemens Model `H'-series detectors [when used with Desigo Fire Safety Modular | FireFinder XLS/V | FC/FV20–series FACPs] –

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

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

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

Dimensional Data



All Model FDO421 intelligent, addressable detectors are approved for operation with the Underwriters' Laboratories-specified temperature range of 32° to 120° (0° to 49°C). (See: installation manual **P/N — A6V10323928** for further details)

Application Data

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

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

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

Field-Device Programmer / Test Unit

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

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

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

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

Technical Data

Operating Temperature:	+32° – +120°F (0° – +49°C)
Relative Humidity:	0 – 95% (non-condensing)
Air Pressure:	No effect
Air Velocity:	0 – 4,000 feet-per-minute (fpm) (0 – 20 meters-per-second)
Input Voltage Range:	16VDC – 30VDC
`Alarm' Current, Max.:	410µA
`Standby' Current, Max.:	250µA
Maximum Spacing:	30–ft. centers (900 sq. ft.), per NFPA 72
Detector Weight:	0.317 Lbs. (0.144 kg.)
Mechanical Protection Guard:	UL and ULC Listed (with STI Guard Model STI-9604)
Sensitivity Range:	1.41 - 3.76 % / ft obs. (Nominal 2.0 % / ft. obs.)

Panel Compatibilities

Model or Type	Data Sheet	Panel
XLS	6300	FireFinder® (fire)
XLSV	6340	FireFinder (fire w/ voice)
DESIGO MODULAR	7300	Desigo Modular (overview)
FC2005	6813	Desigo Fire Safety 50-point addressable
FC2025	6815	Desigo Fire Safety 252-pt. addressable (fire)
FC2050		Desigo Fire Safety 504-pt. addressable (fire)
FV2025	6821	Desigo Fire Safety 252-point addressable (fire w/ Intelligent Voice Communication [IVC])
FV2050		504-pt. addressable (fire w/ Intelligent Voice Communication [IVC])

Details for Ordering

Model or Type	Part Number	Product
FDO421	S54320-F4-A1	Photoelectric Smoke Detector

Compatible Devices:

Model or Type	Part Number	Product
DB-11	500-094151	Detector Mounting Base
DB-11E	500-094151E	Detector Base, small
DB2-HR	S54370-F12-A1	Detector Mounting Base with Relay
RL-HC	500-033230	Remote Alarm Indicator: 4" (10.2 cm) octagon-box mount, red
RL-HW	500-033310	Remote Alarm Indicator: single-gang box mount, red
FDBZ492	S54319-B22-A1	Addressable Air-Duct Housing
FDBZ492-HR	S54319-B23-A1	Addressable Air-Duct Detector with Relay
LK-11	500-695350	Base Locking Kit

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

In Canada order:

Model or Type	Part Number	Product
DB-11C	500-095687	Detector Mounting Base, ULC Listed

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Peripheral and Detection Devices
Initiating Device

Intelligent Test Switch and Status Indicator
Model TSM-1X

Architect & Engineer Specifications

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

Product Overview

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

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

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

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

Specifications

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

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

- Polarity insensitive mode
- Isolator mode

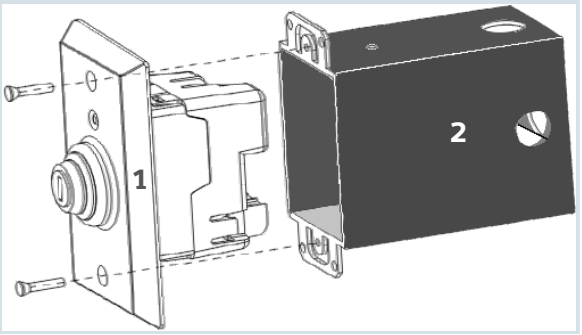
The module can be wired in either mode and configured by the compatible Siemens FACP. While in isolation, the built in dual isolators will work at both sides of the module to isolate a line short in front or behind the module.

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

Model TSM-1X
Duct Detector Test Switch

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

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



Specifications – (continued)

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

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

Operation

Field-Device Programmer / Test Unit

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

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

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

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

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

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

Application Data

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

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

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

Compatibilities

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

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

Temperature and Humidity Range

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

Technical Data

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

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

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

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September 2017 — New Issue
(Rev. 0)

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Peripheral and Detection Devices
Initiating Devices

XMS-Series Manual Pull Stations

Models XMS-S | XMS-D | XMS-M

Architect & Engineer Specifications

- ☐ Built-in loop isolation:
  - Meets Class X (Style 7) survivability requirements
  - Supports up to 190 X-Series isolation peripherals per loop and 30 addressable devices
- ☐ Low current draw
- ☐ Polarity insensitive (in non-isolation mode) via SureWire technology
- ☐ Multi-color status LED
- ☐ T-45 reset key
- ☐ Reduced mounting depth for compatibility with single gang electrical boxes for retrofit applications
- ☐ Trouble indication during service and maintenance
- ☐ Single action, double action, and metal versions available
- ☐ Portuguese and Spanish versions available
- ☐ RoHS compliant
- ☐ UL38 Listed

Product Overview

The XMS-Series of manual pull stations are a complete addressable and conventional pull station portfolio that include single action, double action, 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 modules utilize one address.

The manual stations can be commissioned non-isolation (polarity insensitive) or isolation "X-Series" modes of operation.

Specifications

Models XMS-S, XMS-D, 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. The Model XMS-D is a double action pull station in a plastic housing that requires 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.

Model XMS-D

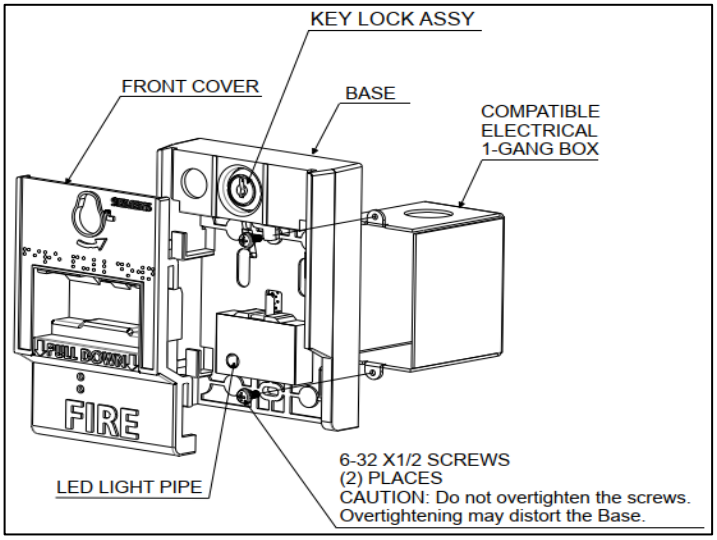
The XMS-Series manual pull stations feature a "maintenance trouble" that places the fire alarm panel into a trouble condition if an XMS is accidentally left in an armed status when the cover is removed for maintenance work.

This technology provides two-direction communication with the control panel. To reset the stations, insert the Siemens T45 key provided into the key lock and turn the key 10-15 degrees counter-clockwise 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 XMS-S, XMS-D, and XMS-M manual stations operate with the Desigo Fire Safety Modular / Cerberus PRO Modular via the XDLC. 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 manual station has an additional lever labeled "PUSH HERE THEN" to get access to the front cover pocket to initiate the alarm.

UL RoHS

Mounting Diagram



Technical Data

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

Physical Properties

Construction:	High impact polycarbonate plastic
	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

Details for Ordering

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 Double 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 - Portugese Text
XMS-DP	S54321-F10-A1	Addressable Double Action Manual Pull Station with Isolation - Portugese Text
XMS-SE	S54321-F11-A1	Addressable Single Action Manual Pull Station with Isolation - Spanish Text
XMS-DE	S54321-F12-A1	Addressable Double Action Manual Pull Station with Isolation - Spanish Text
XMH-501	S54321-F18-A1	Conventional Double Action Manual Pull Station for Agent Release
XMS-501	S54321-F16-A1	Conventional Double 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

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December - 2019
(New Issue)

Peripheral and Detection Devices Initiating Devices

Intelligent Device Interface Modules

Model XTRI-D | XTRI-R | XTRI-S

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Architect & Engineer Specifications

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

Product Overview

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

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

Specifications

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

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

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

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

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

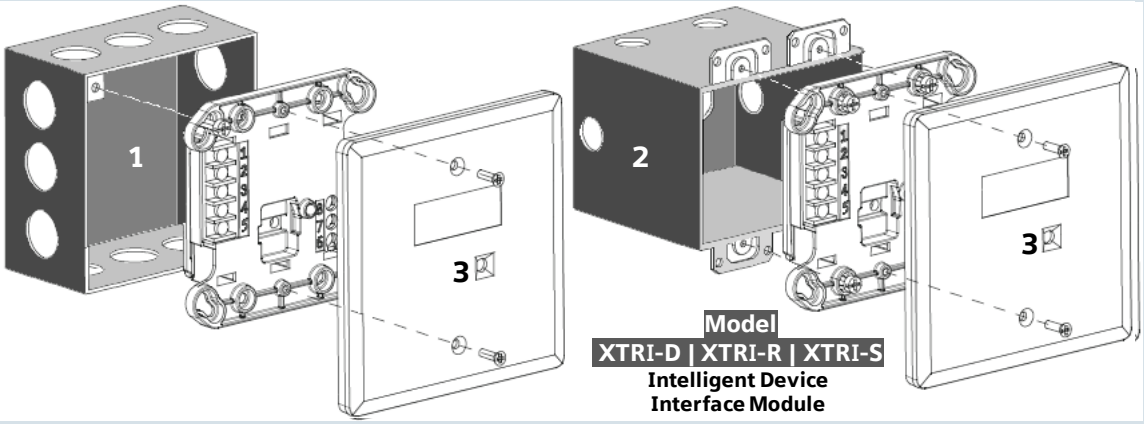
Advanced troubleshooting is provided by compatible panels by identifying when a XTRI-series interface module is configured as an isolator, but is wired incorrectly in a polarity-insensitive mode.

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

Model XTRI-S

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

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



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

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

Specifications – (continued)

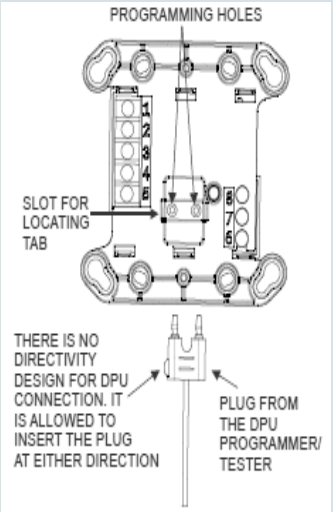
Model XTRI-R

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.

Mounting Data



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

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

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

Operation

Field-Device Programmer / Test Unit

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

Model XTRI-series interface module is connected to Model DPU with the programming cable provided with the tester.

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

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

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

Compatibilities

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

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

Temperature and Humidity Range

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

LED Indicators

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

Electrical Ratings

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

Details for Ordering

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

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

SIEMENS

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SIEMENS

Data Sheet
Fire Safety Products

Notification Appliances

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

AS-MC-CW

AS-MC-R

AH-R

AH-W

Product Overview

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

Specifications

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

SIEMENS Industry, Inc.
Building Technologies Division

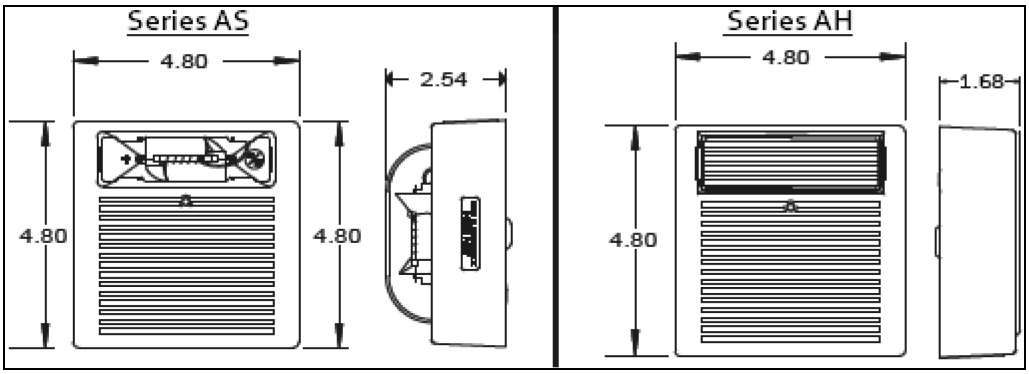
Specifications – (continued)

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

➢ **Note:** NFPA-72 specifies a flash rate of 1-to-2 flashes per second, and ADA Guidelines specify a flash rate of 1-to-3 flashes per second

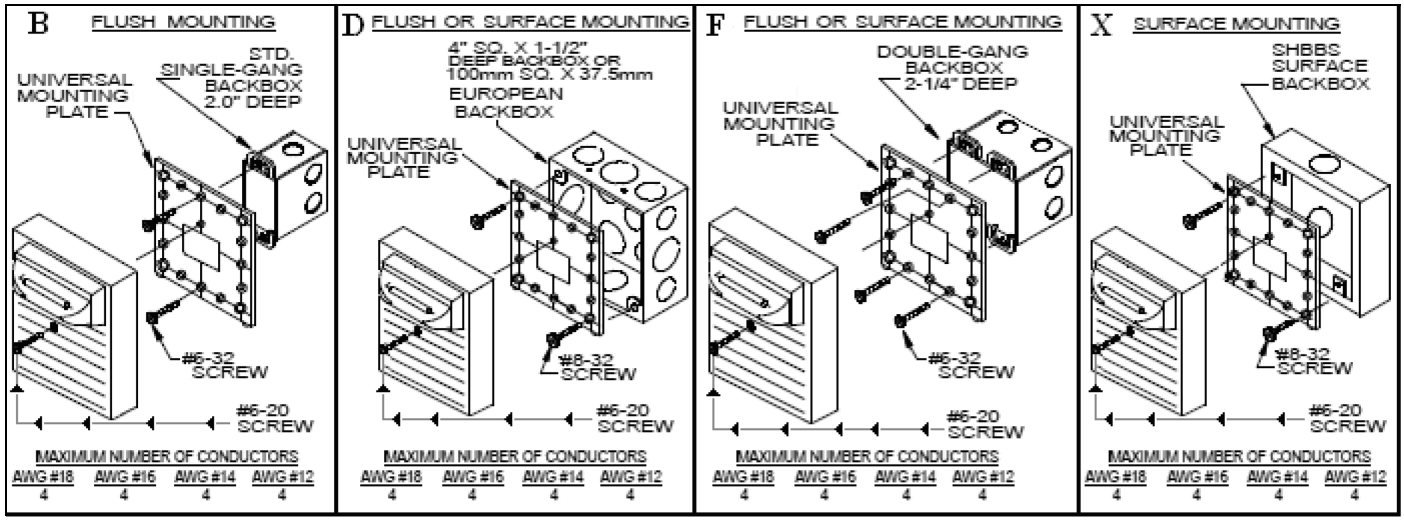
- All Candela ratings represent minimum-effective Strobe intensity, based on ®UL Standard 1971

Mounting Diagram



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

Mounting Options



Technical Data

AS-MC Series: Wall Mount

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

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

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

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

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

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

AS-MC-C Series: Ceiling Mount

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

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

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

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

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

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

AS-HMC Series: Wall and Ceiling Mount

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

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

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

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

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

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

AS-HMC-C Series, Weatherproof: Ceiling Mount

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

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

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

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

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

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

AS-HMC Series, Weatherproof: Wall Mount

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

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

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

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

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

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

AS-75 Series, Weatherproof: Wall & Ceiling Mount

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

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

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

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

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

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

Technical Data

AH Series: Wall-only Mount

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

AH Series: Wall-only Mount

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

AH Series

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

** *Available in sync mode only*

AH Series

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

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

AS Weatherproof Series

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

* Available in red or white.

AS-MC and AS-HMC Series

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

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

** Available only in sync mode.

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

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

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

Agency Approvals

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

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

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

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

Agency listed / approved => ✓

Notes:

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

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

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URL: www.usa.Siemens.com/Fire

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L6H 0H6 / Canada
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September 2015
Supersedes sheet dated 5/2015
(Rev. 5)

SIEMENS

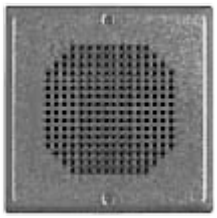
Catalog Sheet
Fire Safety & Security Products

‘08 Series Notification Appliances

CH – Chimes and Chime Strobes

Application: Indoor

CH-CW Chime



CH-R Chime

CH-MC-R Chime Strobe

CH-MC-CW Chime Strobe

Product Overview

- Low current draw with temperature compensation to reduce power consumption and wiring costs
- Wall-mount models are available with field selectable Candela settings of 15/30/75/110cd
- Ceiling-mount models are available with field selectable candela settings of 15/30/75/95cd or 115/177cd
- Strobes produce one (1) flash per second over the regulated input voltage range
- Strobes can be synchronized using the Siemens DSC sync modules, FS-250 panel, XLS panel, or PAD-3 power supply with built-in sync protocol
- Adjustable volume and tone control
- Single stroke or vibrating operation
- Fast Installation with In / Out screw terminals using #12 to #18 AWG wires
- ®UL Listed & ULC Listed; FM, CSFM & NYMEA Approved
- Meets OSHA 29 Part 1910.165
- ADA/NFPA/UFC/ANSI compliant

Specifications

- Chime appliances shall be Siemens Series CH Chimes, and the chime-strobe appliances shall be Siemens Series CH Chime Strobes or approved equals
- The chime shall be ®UL Listed under Standard 464 for Audible Signal Appliances, and chimes equipped with strobes shall be listed under ®UL Standard 1971 for Emergency Devices for the Hearing-Impaired
- Strobes shall incorporate low-temperature compensation to ensure the lowest possible current consumption
- All chimes shall use solid state components, and shall provide field-selectable, single-stroke or vibrating operation with volume and tone control
- All models shall have a peak sound output of 83 dBA Anechoic at 10 feet, and an adjustable frequency range of 800 to 1200 Hz.
- All inputs shall employ terminals that accept #12 to #18 AWG wire sizes
- Strobe portion of the appliance shall produce a flash rate of one (1) flash per second over the Regulated Input Voltage Range, and shall incorporate a Xenon flashtube enclosed in a rugged Lexan® lens
- Strobe shall be of low-current design, and where multi-Candela Chime Strobes are specified, the strobe intensity shall have field-selectable settings and shall be rated per ®UL Standard 1971 at:
  - 15/30/75/110cd for wall mount
  - 15/30/75/95cd or 115/177cd for ceiling mount

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Building Technologies Division

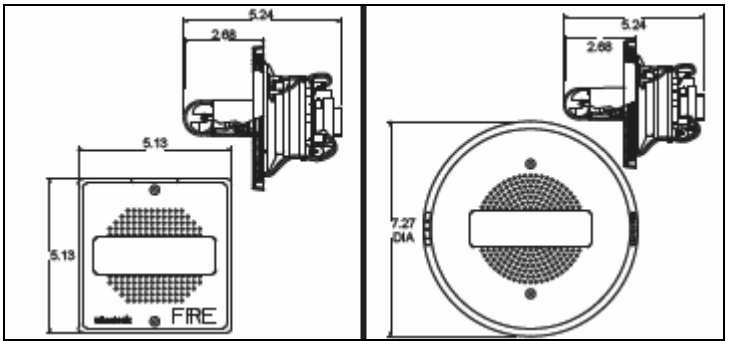
Specifications – (continued)

- The selector switch for selecting the candela shall be tamper resistant and not accessible from the front of the appliance
- Synchronization is possible when using the Siemens DSC sync modules, FS-250 panel, XLS panel, or PAD-3 power supply with built-in sync protocol
- The strobes shall not drift out of synchronization at any time during operation – If the sync module or Power Supply fails to operate, (i.e., contacts remain closed), the strobe shall revert to a non-synchronized flash rate
- The chime and the chime-strobe appliances shall be designed for indoor surface or flush mounting
- The chime and chime strobe shall incorporate a chime mounting plate with a grille cover which is secured with two screws for a level, finish and shall mount to standard electrical hardware requiring no additional trim plate or adapter
- All notification appliances shall be listed for "Special Applications"

General Notes

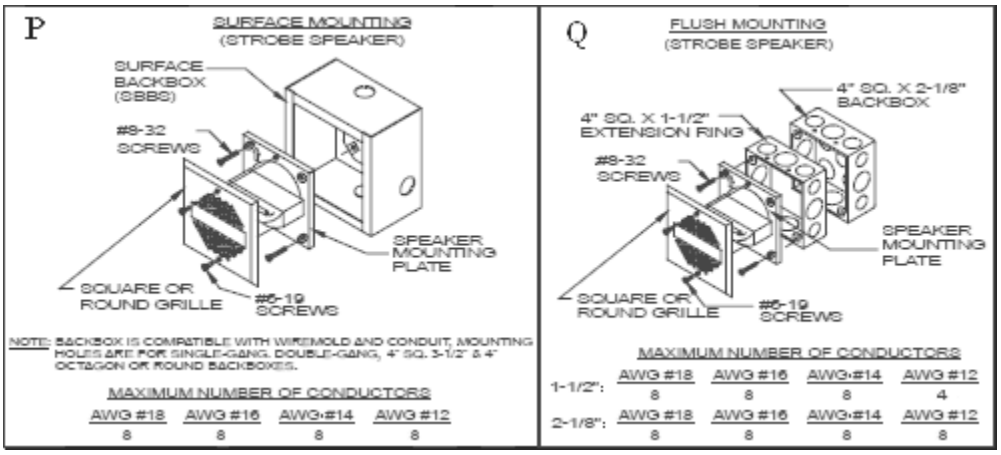
- Strobes are designed to flash at one (1) flash per second minimum over their "Regulated Input Voltage Range"
  - **Note:** ** NFPA-72 specifies a flash rate of 1 to 2 flashes per second, while ADA Guidelines specify a flash rate of 1 to 3 flashes per second **
- All candela ratings represent minimum effective Strobe intensity based on ®UL Standard 1971

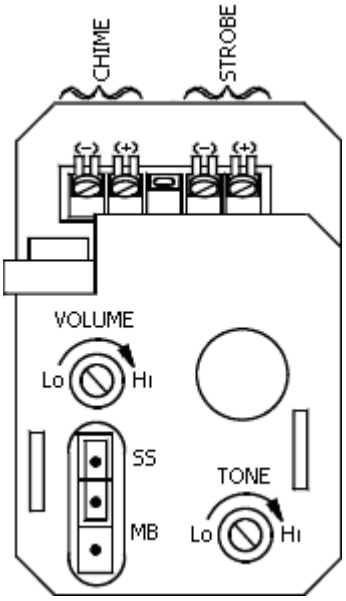
Mounting Diagram



(Shown In Inches)

Mounting Options





Technical Data

Models	®UL Listed Models and Ratings			
	Operating Voltage (Special Application) [Per ®UL 464] (VDC/VRMS)	Maximum RMS Current (Chime Only)	dBA at 10 Feet Reverberant	
		Max	Min	Max
CH*	16-33.0	0.022	52	58
CH-CW	16-33.0	0.022	52	58

* Available in red and white

Note: These notification appliances are ®UL Listed as "Special Application," and are intended to be used only with Siemens notification-appliance circuits.

NOTES:

1. The chime must be set at maximum volume for Private Mode Fire Protective Service per ®UL 464 listing requirements.
2. The chime produces a brief inrush current of 0.100 Amps with filtered DC input [0.140 Amps with full-wave-rectified (VRMS) input] with a duration of 100 milliseconds.

Model	®UL Listed Models and Ratings				
	Operating Voltage (Special Application) [Per ®UL 1971] (VDC/VRMS)	Maximum RMS Current (Chime Only)	dBA at 10 Feet Reverberant		Candela (Wall Mount)
		Max	Min	Max	
CH-MC*	16.0-33.0	0.024	52	58	15/30/75/110

* Available in red and white

NOTES:

1. The strobe will produce 1 flash per second over the Input Voltage range.
2. The strobes meet the required light distribution patterns defined in ®UL 1971.
3. The chime must be set at maximum volume for Private Mode Fire Protective Service per ®UL 464 listing requirements.
4. The chime produces a brief inrush current of 0.100 Amps with filtered DC input [0.140 Amps with full-wave-rectified (VRMS) input] with a duration of 100 milliseconds.

⚠ **WARNING: CANDELA SETTING WILL DETERMINE THE CURRENT DRAW OF THE PRODUCT**

®UL Strobe Current Ratings Only Maximum RMS Current (Amps)					
Voltage		15cd	30cd	75cd	110cd
DC	16-33VDC	0.064	0.098	0.175	0.233
FWR	16-33VRMS	0.108	0.164	0.268	0.368

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

Model Number	Part Number	Description	Mounting Options*	Agency Approvals UL	ULC	FM	CSFM
CH-MC-R	500-636017	Chime: Multi Candela, Red	P,Q,R,U,Y	X	X	X	X
CH-MC-W	500-636018	Chime: Multi Candela, White	P,Q,R,U,Y	X	X	X	X
CH-MC-CR	500-636021	Chime: Multi Candela, Ceiling / Red	Q,U	X	X	X	X
CH-MC-CW	500-636022	Chime: Multi Candela, Ceiling / White	Q,U	X	X	X	X
CH-HMC-CW	500-636023	Chime: Hi Multi Candela, Ceiling / White	Q,U	X	X	X	X
CH-R	500-636019	Chime: Red	P,Q,R,U,Y	X	X	X	X
CH-W	500-636020	Chime: White	P,Q,R,U,Y	X	X	X	X
CH-CW	500-636024	Chime: Ceiling / White	Q,U	X	X	X	X

X = listed / approved *= Refer to catalog sheet #: 2585 for detailed mounting options

Notice: This marketing catalog 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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Building Technologies Division

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December 2009
Supersedes sheet dated 7/07
(Rev. 1)

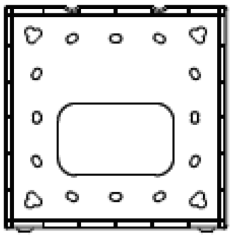
Notification Appliances

Mounting Options

Mounting Diagrams | Mounting Matrixes | Mounting Notes

ARCHITECT AND ENGINEER SPECIFICATIONS

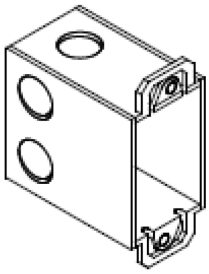
(A) UNIVERSAL MOUNTING PLATE



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

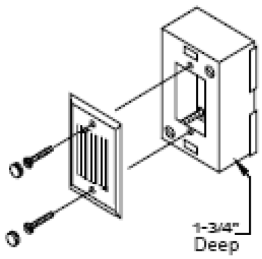
Used with Series
AH, AS

(B) SINGLE-GANG, FLUSH (BO)



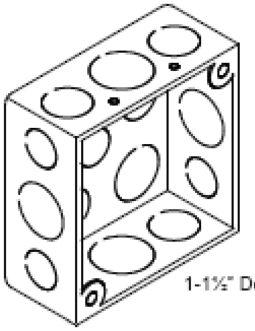
Used with Series
AH, AS, MH, NH, NS, ST, ZH, ZR

(C) SINGLE-GANG, SURFACE (BO)



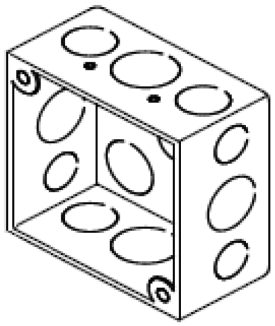
Used with Series
MH

(D) 4" SQUARE, FLUSH (BO)



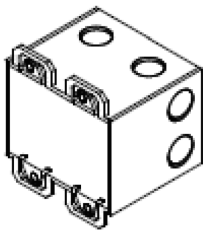
Used with Series
AH, AS, B6, B10, HS, MBDC, MH115, MTH NH, NS, SETSF, SET-ULC, ST, ZH, ZR

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



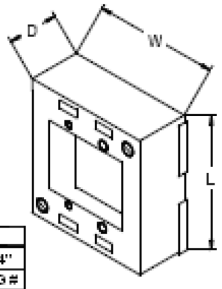
Used with Series
AH, AS, B6, B10, HS, LFS, MBDC, MH115, MTH, NH, NS, SEH, SEFH, SETSF, SET-ULC, ST, ZH, ZR

(F) DOUBLE-GANG, FLUSH (BO)



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

(G) DOUBLE-GANG, SURFACE (BO)



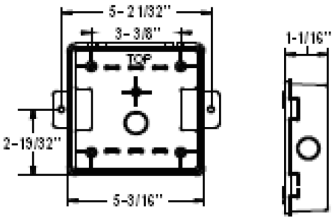
L	W
4-3/4"	4-3/4"
D	GANG #
1-3/4"	2

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

(I) WPBBS

ORDER CODE - RED: 500-636137

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

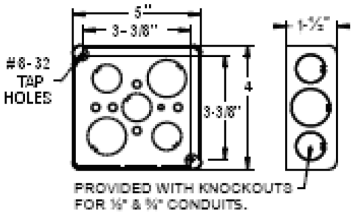


Used with Series
AS (Weatherproof)

(J) BBS BACKBOX

ORDER CODE - RED: 500-636110

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

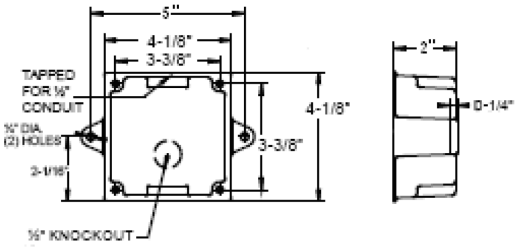


Used with Series
AH, AS, B6, B10, DSC, MBDC, MH115, MTH-15-115, NH, ST

(K) WBBS WEATHER RESISTANT BACKBOX

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

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



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

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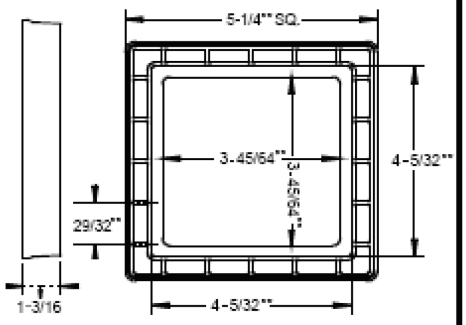
Building Technologies Division

Mounting Options – (continued)

(L) ISPS2 SURFACE ADAPTER

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

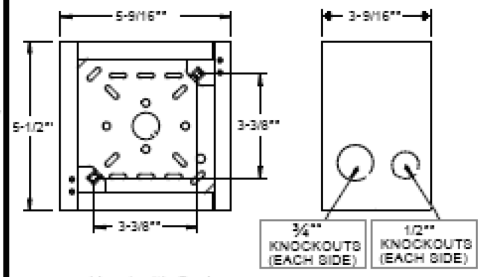


Used with Series
HS, MTH, SET

(P) SBBS BACKBOX

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

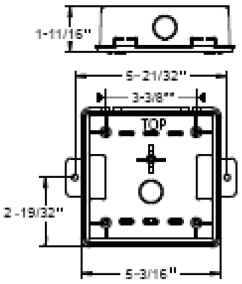
For surface mounting speakers, chimes, and electronic applications.



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

(T) WPSBBS

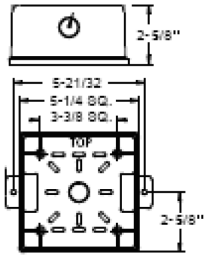
ORDER CODES – RED: 500-636139,
WHITE: 500-636140



Used with Series
ST-WP

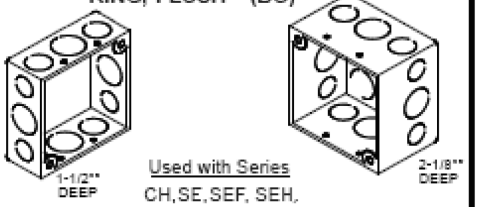
(M) MT-SUR-BOX BACKBOX

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



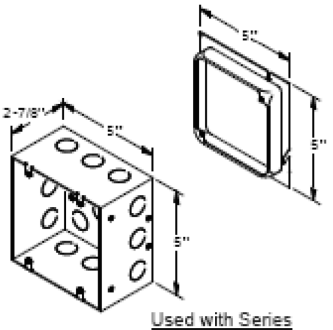
Used with Series
HS, SET
(MTH, MTWP: For surface mounting on MT products.)

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



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

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

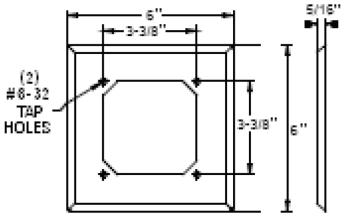


Used with Series
CH, SE, SEF, SET

(R) SFPS SEMI-FLUSH PLATE

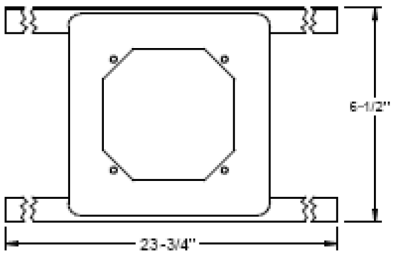
ORDER CODES – RED: 500-636124,
WHITE: 500-636125

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



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

(V) SSB-4 CEILING SUPPORT BRIDGE



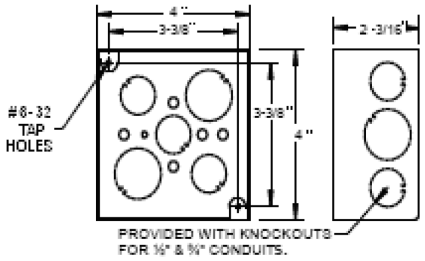
Provisions for (4) J-nuts #8-32 lb 3-⅜"
Square Material: Steel

Used with Series
SE

(N) DBBS BACKBOX

ORDER CODE – RED: 500-636111

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

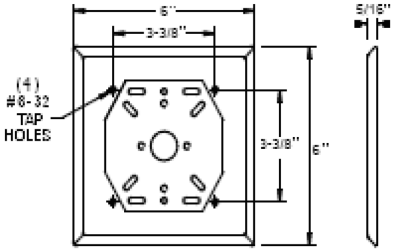


Used with Series
AH, AS, B6, B10, HS, MBDC, MH115, MTH, NH, SETSF, ST

(S) APS ADAPTER PLATE

ORDER CODE – RED: 500-636109

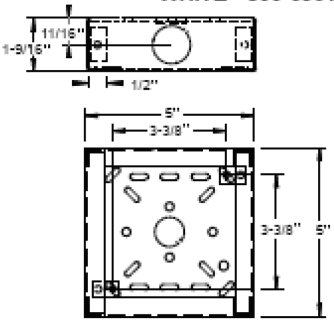
Stamped aluminum adapter plate designed for applications where semi-flush installations cannot be used. The plate can be mounted to standard octagon or round backboxes single or double gang boxes or plaster rings. The backbox and basic unit are then fastened to the plate. This type of mounting is referred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



Used with Series
B6, B10, MBDC

(X) SHBBS SQUARE, SURFACE BACKBOX

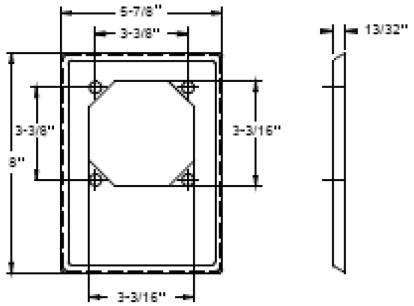
ORDER CODES – RED: 500-636126,
WHITE: 500-636127



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

(O) RETROFIT PLATE

ORDER CODES – [PENDING]

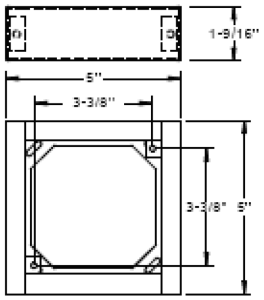


Used with Series
B6, B10, MBDC, MTH, NH, SE

Mounting Options – (continued)

(Y) SERS SQUARE SEMI-FLUSH EXTENSION RING

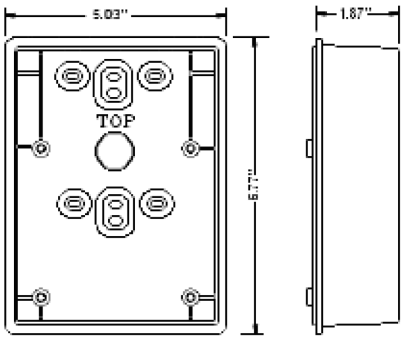
ORDER CODES – RED: 500-636122, WHITE: 500-636123



Used with Series
CH, SE, SEF, SET

(BB) SPSSB

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

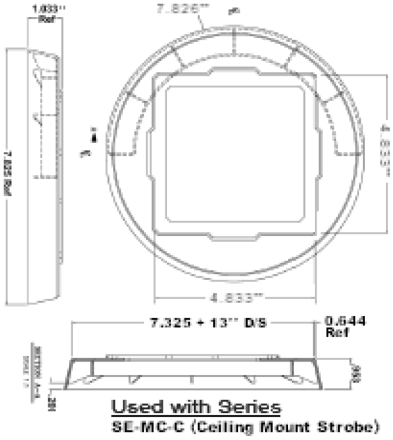


Used with Series
SEH, SEFH

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

(EE) SPEXT EXTENSION RING

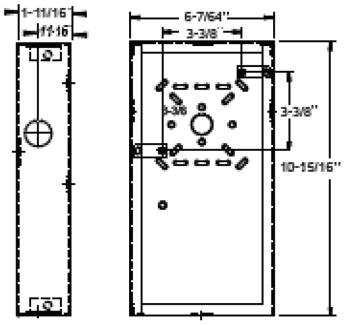
ORDER CODES – RED: 500-636116, WHITE: 500-636117



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

(Z) SBL2S BACKBOX

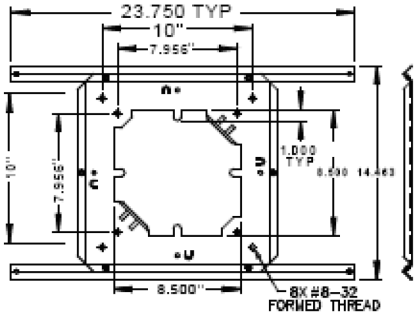
ORDER CODE – RED: 500-636121



Used with Series
ST

(CC) SB-W 8" CEILING SUPPORT BRIDGE

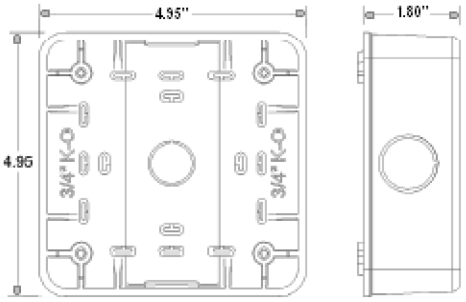
ORDER CODE – WHITE: 500-634882



Used with Series
S 8" Ceiling Speakers

(FF) ZB

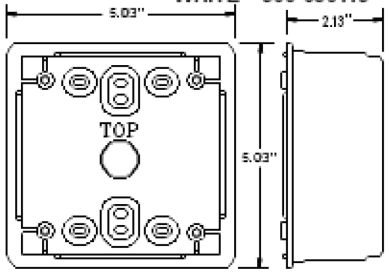
ORDER CODES – RED: 500-636193, WHITE: 500-636194



Used with Series
Z

(AA) SPSB BACKBOX

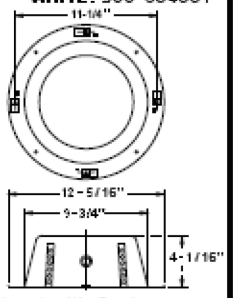
ORDER CODES – RED: 500-636112, WHITE: 500-636113



Used with Series
SE (Speakers), SEFH

(DD) SE-1 8" CEILING SPKR BACKBOX

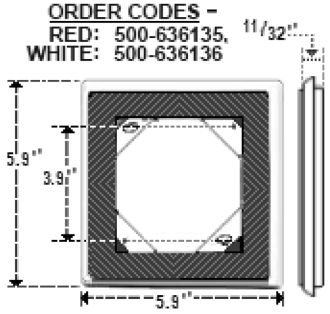
ORDER CODE – WHITE: 500-634881



Used with Series
S 8" Ceiling Speakers

(GG) WFPS PLATE

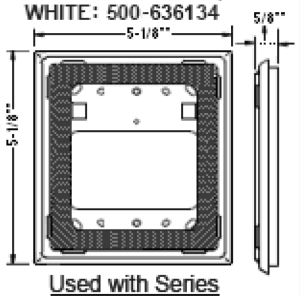
ORDER CODES – RED: 500-636135, WHITE: 500-636136



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

(HH) WFPAS PLATE

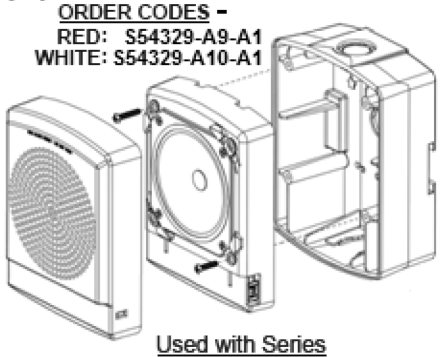
ORDER CODES – RED: 500-636133, WHITE: 500-636134



Used with Series
AS-WP

(II) LFSBB BACKBOX

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



Used with Series
LFS

Mounting Matrix
(*by Series*)

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

Mounting Notes

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

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

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

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

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

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

Back Box Mounting

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

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

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

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

Back box Mounting Options*

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

* Measured from Bottom of Back box

More Back box Mounting Options*

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

* Measured from Bottom of Back box

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

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

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URL: www.Siemens.CA

August 2016
Supersedes sheet dated 6/2016
(Rev. 8)

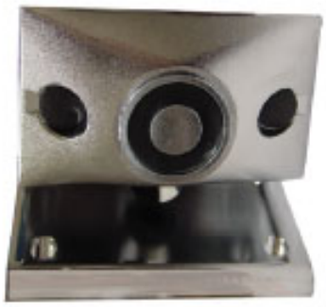
Electromagnetic Fire Door Holders
DH Series

RSG
3300 E. 59th St.
Long Beach, CA 90805
P: (562) 529 5100
F: (562) 529 5102
www.rsgsecurity.com


DH( )FB
(Brass Plated)


DH( )FC
(Chrome Plated)


DH( )FPC
(Powdercoated)


DH( )GC1


DH( )WC

Description: DH series fire door holders are constructed of the finest materials and workmanship available. The door holder is made of durable die-cast metal and offered in a high luster plated or powdercoated finish.

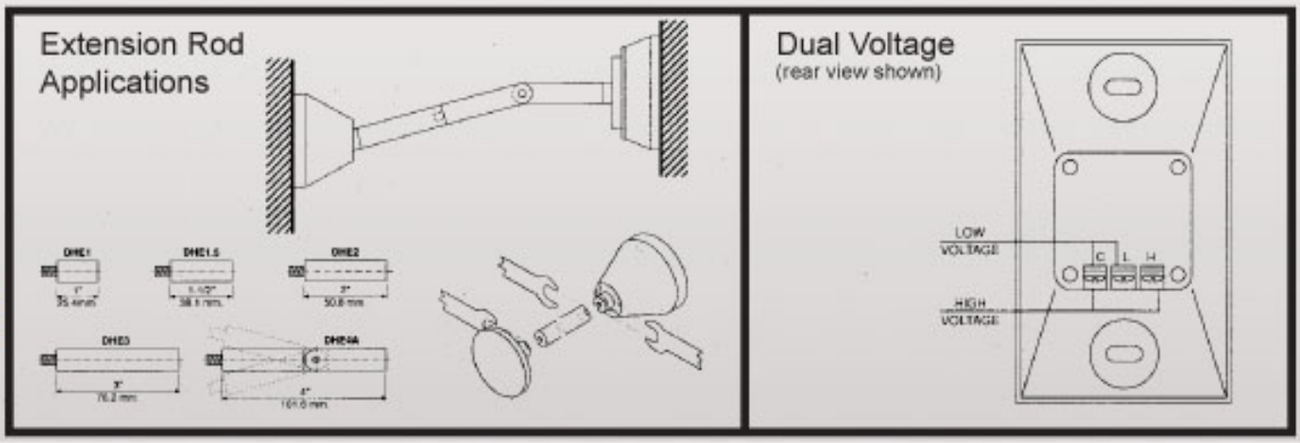
Other features include standard dual voltage ac or dc inputs of 12 & 24V, 24 & 120V and 24 & 220V models. While reducing stocking requirements, model 24120 draws a mere .020 ma. @24VDC lowering overall job costs. (in large installations the cost savings can be substantial).

Other features: single or double coil floor mounting, surface mounting and direct wall mounting. No brackets are required. The DH series door holder offers a new installation technique using an adhesive template assuring alignment without secondary adjustments.

Accessories include extension and misalignment rods (various lengths) enabling parallelism between door and wall at distances greater than 12 inches and misalignment over 4 inches.

Aiding in installation is the aircraft quality DH drill that reduces installation time and provides a near perfect alignment of catch-plate and armature - again, lowering overall installation costs.

Basic units offer superior holding force and low residual magnetism. Models 1224 and 24120 can operate at higher listed voltages producing holding forces in excess of 100lbs. (45.3kg.) For special applications.



MADE IN AMERICA

OPTIONAL FEATURES
PLATED OR POWDERCOATED FINISH
DOUBLE BRASS PLATING/POWEDERCOATED
EXTENSION AND MISALIGNMENT RODS.
SURFACE MOUNT BACK BOX.
TIME SAVING DRILL FIXTURE
(FOR MOUNTING CATCH PLATE).

STANDARD FEATURES
VERY LOW CURRENT DRAW.
DUAL VOLTAGE INPUTS.
TERMINAL BLOCK CONNECTIONS.
HIGH HOLDING FORCE.
LOW RESIDUAL MAGNETISM.
DOUBLE CHROME PLATING.
MOUNTING HARDWARE & INSTRUCTIONS.

PERFORMANCE DATA:

MODEL	VOLTAGE	DC/mA	AC/mA	Terminals	LB.	KG.
1224	12V	40	38	C&L	30	13.6
	24V	40	36	C&H	30	13.6
24120	24V	20	19	C&L	40	18.1
	120V	——	20	C&H	35	15.8
24420	24V	20	19	C&L	40	18.1
	220V	——	15	C&H	25	11.3

NOTE: Holding forces listed in above table correspond with shaded values, non shaded values are slightly less.

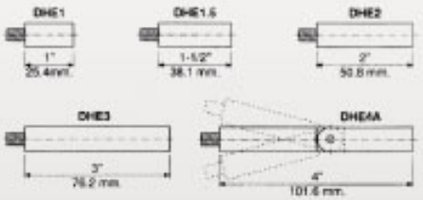
MODEL	VOLTAGE	DC/mA	AC/mA	Terminals	LB.	KG.
1224	24V	85	81	C&L	75	34.0
24120	120V	——	.100	C&L	110	49.8

HIGH HOLDING FORCE/SPECIAL APPLICATIONS:
To obtain performance values in table above apply high listed voltage to low voltage terminals (C & L).
NOTE: This configuration can only be applied to models 1224 & 24120.

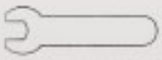
ACCESSORIES

Extensions:

Extension rods

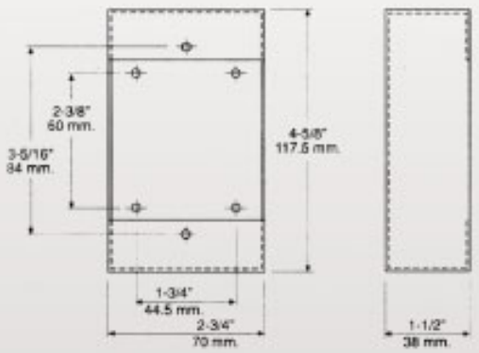


Extension Wrenches



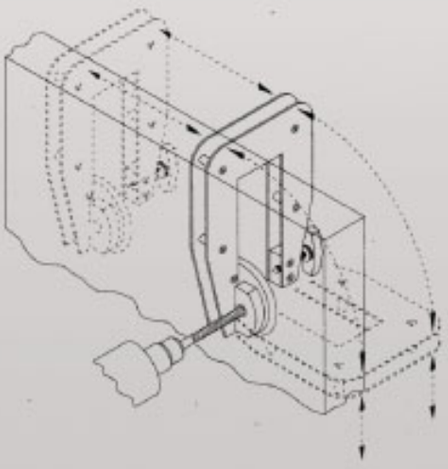
Surface Mounting:

DHBB (back box)



Installation Tools:

DHDF (drill fixture)



ORDERING INFORMATION:

DH	=	Door Holder
F	=	Flush Mount
S	=	Surface Mount
R	=	Recessed
G	=	Ground Mount
P	=	Powdercoated
C	=	Chrome Plating
B	=	Brass Plating
1	=	Single Coil
2	=	Double Coil

NOTE: #2 indicates double coil ground mount model.

Example: DH (24120) (S) (P) (C) (1)

Door holder

Model/Voltage
1224, 24120, 24220

Mount Style
Surface, Flush, Ground, Recessed

Powdercoated

Finish
Chrome, Brass

Coils
1,2

ACCESSORIES:
Extensions:

DHE1C	1 inch extension chrome.
DHE1B	1 inch extension brass.
DHE15C	1-1/2 inch extension chrome.
DHE15B	1-1/2 inch extension brass.
DHE2C	2 inch extension chrome.
DHE2B	2 inch extension brass.
DHE3C	3 inch extension chrome.
DHE3B	3 inch extension brass.
DHEAC	4 inch adjustable extension chrome.
DHEAB	4 inch adjustable extension brass.

Hardware:

DHCPC	Catch plate assembly chrome.
DHCPB	Catch plate assembly brass.
DHDC	Catch disc only chrome.
DHDB	Catch disc only brass.
DHBBC	Surface back box chrome.
DHBBB	Surface back box brass.
DHW	Extension wrenches.
DHDF	Drilling fixture.

PS SERIES

RECHARGEABLE SEALED LEAD ACID BATTERIES

Fire & Security

General Purpose

Emergency Lighting

Medical

Power Sonic's PS series of sealed lead acid batteries have been designed with AGM (Absorbent Glass Mat) technology to ensure superior performance and reliability.

They have been engineered specifically for use in general purpose float and light cyclic applications including security and fire protection systems, emergency lighting, UPS, toys and medical devices.

POWER PS SONIC
TRUSTED BATTERY SOLUTIONS

power-sonic.com

POWER PS SONIC
TRUSTED BATTERY SOLUTIONS

PS SERIES

Fire & Security | General Purpose | Emergency Lighting | Medical

PS SERIES

Rechargeable Sealed Lead Acid Batteries

FEATURES

- General purpose VRLA battery
- Absorbent Glass Mat (AGM) technology for superior performance
- Power and volume ratio yielding unrivalled energy density
- VdS approved models
- Valve regulated, maintenance free spill proof construction
- Rugged impact resistant ABS case and cover flame retardant to UL94:HB and UL94:V0
- Low discharge rate for long shelf life

SPECIFICATIONS

Model	Nominal Voltage	Design Life in float service 68°F (20°C)	Rated Capacity (AH)				Approx. Dimensions: inch (mm)								Approx. Weight		Terminal Type
			20-hr	10-hr	5-hr	1-hr	Length		Width		Height		Total Height				
		Years	1.80V/cell	1.80V/cell	1.75V/cell	1.60V/cell	inch	mm	inch	mm	inch	mm	inch	mm	lbs.	kgs.	
PS-260	2	5	6.0	5.4	4.9	3.6	1.97	50	1.34	34	3.94	100	4.13	105	0.89	0.4	F1
PS-435ST	4	5	3.5	3.3	2.9	2.1	3.54	90	1.34	34	2.32	59	2.56	65	0.99	0.45	F1
PS-445	4	5	4.5	4.2	3.8	2.7	1.89	48	2.09	53	3.70	94	3.86	98	1.3	0.59	F2
PS-4100	4	5	10.0	9.3	8.5	6.2	4.01	102	1.97	50	3.70	94	3.85	98	2.5	1.13	F1
PS-610	6	5	1.0	0.9	0.8	0.6	2.00	51	1.65	42	2.00	51	2.20	56	0.55	0.25	F1
PS-612	6	5	1.2	1.1	1.0	0.7	3.82	97	0.94	24	2.00	51	2.20	56	0.64	0.29	F1
PS-612ST	6	5	1.2	1.1	1.0	0.7	3.82	97	0.94	24	2.00	51	2.20	56	0.64	0.29	F1
PS-621	6	5	2.0	1.9	1.7	1.2	1.69	43	1.46	37	2.99	76	2.99	76	0.75	0.34	F1
PS-628	6	5	2.9	2.6	2.5	1.8	2.60	66	1.30	33	3.86	98	4.06	103	1.3	0.59	F1
PS-630	6	5	3.5	3.3	3.0	2.2	5.28	134	1.34	34	2.35	60	2.56	65	1.37	0.62	F1
PS-630ST	6	5	3.5	3.3	3.0	2.2	5.28	134	1.34	34	2.35	60	2.56	65	1.37	0.62	F1
PS-632	6	5	3.5	3.3	3.0	2.2	2.60	66	1.30	33	4.65	118	4.80	122	1.57	0.71	F1
PS-640	6	5	4.5	4.1	3.3	2.8	2.76	70	1.86	47	3.94	100	4.25	108	1.79	0.81	F1
PS-650LF & LS	6	5	5.0	4.3	4.0	3.0	2.64	67	2.64	67	3.94	100	4.64	118	1.8	0.82	F1/SP
PS-665	6	5	6.5	6.1	5.5	4.0	3.86	98	2.20	56	3.78	96	4.02	102	2.7	1.22	FP
PS-670	6	5	7.0	6.3	6.0	4.3	5.95	151	1.34	34	3.70	94	3.94	100	2.42	1.1	F1
PS-682	6	5	8.5	7.9	7.3	5.3	3.86	98	2.20	56	4.65	118	4.72	120	3.35	1.52	F1
PS-6100	6	5	12.0	11.5	10.5	7.3	5.95	151	2.00	51	3.70	94	3.86	98	4.3	1.95	F1/F2
PS-6120	6	10 - 12	11.0	10.9	10.6	7.9	5.95	151	2.00	51	3.70	94	3.94	100	4.3	1.95	F1
PS-6120 FR	6	10 - 12	11.0	10.9	10.6	7.9	5.95	151	2.00	51	3.70	94	3.94	100	4.3	1.95	F1
PS-6120FP	6	5	13.0	12.2	11.1	8.0	4.25	108	2.80	71	5.55	141	5.55	141	4.8	2.18	FP
PS-6200	6	5	20.0	18.6	17.0	12.4	6.18	157	3.27	83	4.92	125	4.92	125	7.1	3.22	NB1

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FURTHER INFORMATION

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Rev1: 12/18

POWER PS SONIC
TRUSTED BATTERY SOLUTIONS

Fire & Security | General Purpose | Emergency Lighting | Medical

PS SERIES

Rechargeable Sealed Lead Acid Batteries (continued)

SPECIFICATIONS (continued)

Model	Nominal Voltage	Design Life in float service 68°F (20°C)	Rated Capacity (AH)				Approx. Dimensions: inch (mm)								Approx. Weight		Terminal Type
			20-hr	10-hr	5-hr	1-hr	Length		Width		Height		Total Height				
		Years	1.80V/cell	1.80V/cell	1.75V/cell	1.60V/cell	inch	mm	inch	mm	inch	mm	inch	mm	lbs.	kgs.	
PS-6360	6	5	36.0	33.5	30.6	22.3	6.25	159	3.35	85	6.50	165	6.93	176	12.1	5.49	F2/NB1
PS-6580	6	5	58.0	56.0	50.0	35.0	7.28	185	4.41	112	8.07	205	8.07	205	19.5	8.8	F2
PS-62000	6	5	210.0	200.0	180.0	134.0	12.05	306	6.65	169	8.65	220	8.96	228	63.9	29	T8
PS-832	8	5	3.2	3.0	2.7	2.0	5.29	134	1.44	36.5	2.49	63	2.70	69	1.65	0.75	F1
PS-1208JST FR	12	5	0.8	0.7	0.7	0.5	3.78	96	0.98	25	2.44	62	2.44	62	0.77	0.35	JST
PS-1208WL	12	5	0.8	0.7	0.7	0.5	3.78	96	0.98	25	2.44	62	2.44	62	0.77	0.35	WL
PS-1212	12	5	1.4	1.3	1.2	0.8	3.78	96	1.69	43	2.04	52	2.28	58	1.2	0.54	F1
PS-1221S	12	5	2.0	1.9	1.7	1.2	5.91	150	0.80	20	3.52	89	3.52	89	1.5	0.68	F1/0
PS-1223	12	5	2.3	2.3	2.0	1.4	7.17	182	0.94	24	2.40	61	2.40	61	1.7	0.77	PC
PS-1220	12	5	2.5	2.2	2.0	1.5	7.00	178	1.38	35	2.36	60	2.56	65	2.1	0.95	F1
PS-1228	12	5	2.8	2.5	2.4	1.7	5.24	133	1.30	33	3.82	97	4.09	104	2.6	1.18	F1
PS-1227	12	5	2.9	2.6	2.5	1.8	3.11	79	2.20	56	3.90	99	4.13	105	2.4	1.09	F1
PS-1229L	12	5	2.9	2.7	2.5	1.8	7.00	178	1.38	35	2.36	60	2.60	66	2.3	1.04	F1
PS-1230	12	5	3.4	3.3	2.9	2.2	5.24	133	2.64	67	2.36	60	2.60	66	2.9	1.32	F1
PS-1238	12	5	3.8	3.5	3.2	2.4	7.68	195	1.85	47	2.91	74	2.99	76	3.5	1.59	F1
PS-1242	12	5	4.5	4.2	3.8	2.7	3.54	90	2.76	70	3.98	101	4.21	107	3.26	1.48	F1
PS-1250	12	5	5.0	4.5	3.8	2.9	3.54	90	2.76	70	3.98	101	4.21	107	3.5	1.59	F1/F2
PS-1270	12	5	7.0	6.5	6.0	4.5	5.94	151	2.56	65	3.70	94	3.86	98	4.8	2.18	F1/F2
PS-1280	12	5	8.0	7.2	6.7	4.9	5.94	151	2.56	65	3.72	94.5	3.90	99	5.6	2.54	F1/F2
PS-1282L	12	5	9.0	8.1	7.7	5.6	7.72	196	2.20	56	4.65	118	4.65	118	6.9	3.13	F1
PS-1282S	12	5	9.0	8.1	7.7	5.6	3.86	98	4.40	112	4.65	118	4.65	118	6.90	3.13	F1
PS-1290	12	5	9.0	8.1	7.2	5.4	5.94	151	2.56	65	3.70	94	3.86	98	6.00	2.72	F2/NB1
PS-12100H	12	5	10.5	10.0	9.4	6.8	5.94	151	2.56	65	4.40	112	4.67	118	7.23	3.28	F2
PS-12100	12	5	12.0	11.5	10.0	9.0	5.94	151	4.00	102	3.70	94	3.86	98	8.14	3.69	F1/F2
PS-12120L	12	5	12.0	11.9	11.1	8.0	8.52	216	2.75	70	5.75	146	5.75	146	8.80	3.99	FP
PS-12120	12	5	12.0	11.4	10.2	8.8	5.94	151	3.86	98	3.66	93	3.86	98	8.10	3.68	F2/NB1
PS-12140	12	5	14.0	13.0	12.5	8.5	5.94	151	3.86	98	3.70	94	3.94	100	9.25	4.2	F2
PS-12180	12	5	18.0	17.1	15.3	11.5	7.13	181	3.00	76	6.57	167	6.57	167	12.32	5.6	F2/NB2/T12
PS-12180 FR	12	5	18.0	17.1	15.3	11.5	7.13	181	3.00	76	6.57	167	6.57	167	12.32	5.6	F2/NB2/T12
PS-12200	12	5	20.0	19.0	17.0	13.1	7.13	181	3.00	76	6.57	167	6.57	167	13.09	5.95	T12
PS-12260	12	5	26.0	24.7	22.1	15.8	6.56	167	6.97	177	4.92	125	4.92	125	17.50	8.0	F2/NB2/T12
PS-12280	12	5	28.0	26.0	23.8	17.6	6.50	165	4.92	125	6.89	175	6.89	175	20.95	9.5	NB1
PS-12330	12	5	33.0	30.0	26.2	19.1	7.72	196	5.14	131	6.22	158	7.00	176	23.00	10.5	NB3
PS-12350	12	5	35.0	33.0	28.1	20.7	7.68	195	5.12	130	6.46	164	7.01	178	23.15	10.5	NB3/T6
PS-12550	12	5	55.0	52.3	46.7	36.2	8.90	226	5.31	135	8.15	207	9.02	229	37.62	17.0	T6/U

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Model	Nominal Voltage	Design Life in float service 68°F (20°C)	Rated Capacity (AH)				Approx. Dimensions: inch (mm)								Approx. Weight		Terminal Type
			20-hr	10-hr	5-hr	1-hr	Length		Width		Height		Total Height				
		Years	1.80V/cell	1.80V/cell	1.75V/cell	1.60V/cell	inch	mm	inch	mm	inch	mm	inch	mm	lbs.	kgs.	
PS-12750	12	10 - 12	78.6	75.0	63.8	45.0	10.25	260	6.69	170	7.95	202	8.74	222	53.24	24.2	T6/U
PS-121000	12	10 - 12	100.0	95.2	83.0	57.9	12.05	306	6.61	168	8.19	208	9.06	230	67.50	30.6	T6/U
PS-121000 FR	12	10 - 12	100.0	95.2	83.0	57.9	12.05	306	6.61	168	8.19	208	9.06	230	67.50	30.6	T6/U
PS-121100	12	10 - 12	107.0	100.0	94.5	78.0	13.00	330	6.81	173	8.35	212	8.66	220	70.56	32.0	T11
PS-122500	12	5	260.0	250.0	215.4	152.5	20.55	522	10.55	268	8.66	220	8.90	226	161.00	73	T11

VdS

A number of our PS range of batteries are VdS approved. VdS is one of the world's leading inspection and certification companies in the fire protection and security industry. They set international standards with the publication of a comprehensive set of rules and guidelines for fire protection and safety equipment. VdS is one of the only testing institutes certifying sealed lead acid batteries, our VdS approved batteries are indispensable for the reliability of many security and fire systems. The VdS quality seal certifies that our batteries are of optimum quality for use in fire, security and life safety applications.

SPECIFICATIONS (VdS Approved)

Model	Nominal Voltage	Design Life in float service 68°F (20°C)	Rated Capacity (AH)				Approx. Dimensions: inch (mm)								Approx. Weight		Terminal Type
			20-hr	10-hr	5-hr	1-hr	Length		Width		Height		Total Height				
		Years	1.80V/cell	1.80V/cell	1.75V/cell	1.60V/cell	inch	mm	inch	mm	inch	mm	inch	mm	lbs.	kgs.	
PS-6100VdS	6	10 - 12	10.0	9.3	8.5	6.3	5.94	151	2.01	51	3.70	94	3.94	100	4.30	1.95	F1
PS-1212VdS	12	5	1.2	1.1	1.0	0.7	3.82	97	1.69	43	2.05	52	2.28	58	1.26	0.57	F1
PS-1221VdS	12	5	2.1	1.9	1.7	1.2	7.01	178	1.38	35	2.36	60	2.60	66	2.12	0.96	F1
PS-1230VdS	12	5	3.4	3.2	2.9	2.1	5.28	134	2.64	67	2.38	60.5	2.62	66.5	2.98	1.35	F1
PS-1270VdS	12	5	7.0	6.5	5.8	4.3	5.94	151	2.56	65	3.70	94	3.94	100	4.81	2.18	F1/F2
PS-12120VdS	12	5	12.0	11.2	10.2	7.5	5.94	151	3.86	98	3.74	95	3.98	101	7.72	3.5	F1
PS-12170VdS	12	10 - 12	17.0	16.0	14.2	9.8	7.15	181.5	3.03	77	6.59	167.5	6.59	167.5	12.57	5.7	T12
PS-12260VdS	12	10 - 12	26.0	24.2	22.1	16.3	6.56	166.5	6.89	175	4.65	118	4.92	125	17.20	7.8	T12
PS-12380VdS	12	10 - 12	38.0	36.1	31.1	22.0	7.76	197	6.50	165	6.69	170	6.69	170	29.10	13.2	T6
PS-12450VdS	12	10 - 12	45.0	42.0	36.6	26.0	7.76	197	6.50	165	6.69	170	6.69	170	32.00	14.5	T6
PS-12650VdS	12	10 - 12	65.0	61.8	53.0	37.7	13.70	348	6.57	167	7.01	178	7.01	178	46.30	21	T6

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