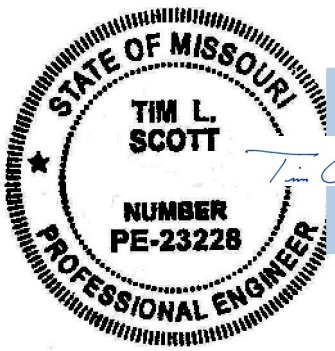
SIEMENS

Fire Alarm Submittals For:

Lee's Summit Hospital
HYBRID OR Addition

44op-307325
2100 SE Blue Parkway
Lee's Summit, Missouri 64063

MISSOURI CERTIFICATE OF AUTHORITY #000816



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Location: MO PE #23228 MO COA #816
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4-21-2021

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Building Technologies
Fire Safety

PREPARED FOR:

Lee's Summit Hospital
44op-307325
2100 SE Blue Parkway
Lee's Summit, Missouri 64063

FIRE ALARM SYSTEM TABLE OF CONTENTS

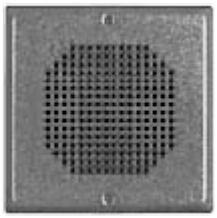
INDEX BY CATALOG NUMBER

‘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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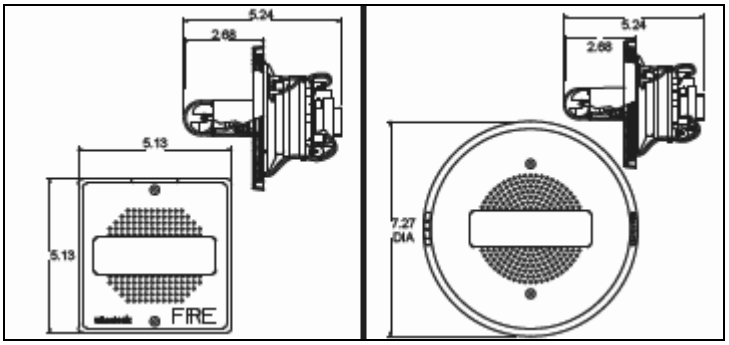
Specifications – (continued)

- 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



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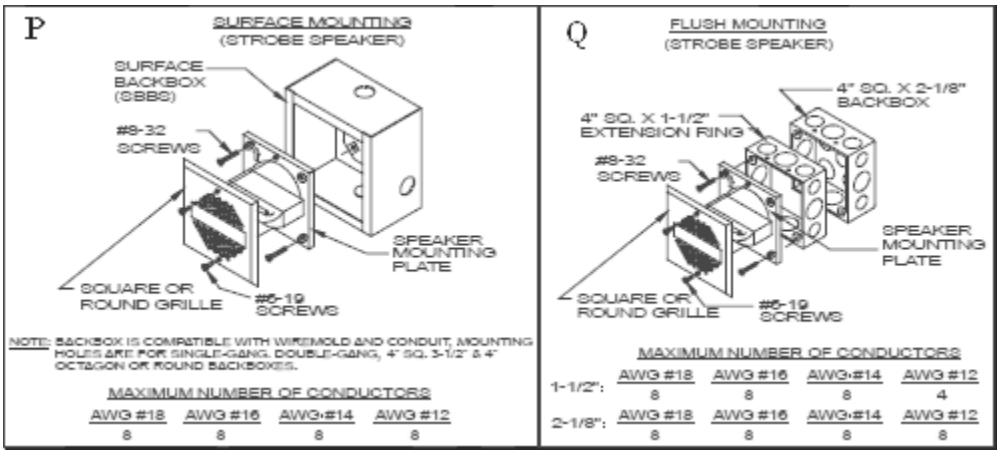
Mounting Options



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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SIEMENS

Data Sheet
Fire Safety Products

Notification Appliances

ZH & ZR – Strobes, Horns, & Horn / Strobes

Application: Indoor

ZH Series

ZR Series

ZR & ZH (for mounting)

Product Overview

- Strobes can be synchronized using the Siemens DSC sync modules, the Siemens 50-point, 252-point and 504-point addressable 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
- Selectable Continuous Horn or Temporal (Code-3) Tones with 90 or 95 dBA selectable setting (Series 'ZH')
- Ceiling-mount models feature field-selectable Candela settings of 15/30/75/95cd and 115/177cd
- Wall-mount models feature field-selectable Candela settings of 15/30/75/110cd and 135/185cd
- Base plate is protected by a disposable cover, and the appliances can quickly snap onto the base after the walls are painted
- Strobes produce one (1) flash per second
- ``Special Applications" listed with Siemens panels
- EZ Mount Universal Mounting Plate (Model ZB Series) — uses single plate for ceiling and wall mount installations
- EZ Mount design — with separate base plate — provides ability to pre-wire the base and test the circuit wiring before the walls are covered
- ®UL Listed & ULC Listed, FM (#3028994) Approved;
  CSFM Approved (Series 'ZH': #7125-0067:0248 –> Fire Alarm Devices For The Hearing Impaired)
  CSFM Approved (Series 'ZR': #7125-0067:0252 –> Fire Alarm Devices For The Hearing Impaired)
- ADA / NFPA compliant

Specifications

- **General**
- Audible/Visual notification appliances are listed for indoor use only
- Appliances are listed under ®UL Standard 1971 (Standard for Safety Signaling Devices for Hearing Impaired) and ®UL Standard 464 (Fire Protective Signaling)
- Appliances use a universal back plate, which allows mounting to a single-gang, double-gang, 4-inch-square (10.2 cm.), 4"-octal (10.2 cm.), or a 3-1/2" (8.9 cm.) octal backbox
- Two-wire configurations allows capability for directly connecting appliances to the mounting back plate
- Continuity check will occur for entire NAC circuit prior to attaching any audible / visual-notification appliances
- A cover fits over the mounting plate for protection to dust and other outside elements
  - Cover is easily removed when the appliance is installed over the back plate
- Removal of an appliance will result in a *Trouble* condition by the Siemens Fire Alarm Control Panel (FACP)

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Specifications – (continued)

- **Strobes and Audible Strobe Combinations**

– Strobe appliances produce a minimum flash rate of 60 flashes per minute (one [1] flash per second) over the Regulated Input Voltage Range, and incorporate a Xenon flashtube enclosed in a rugged Lexan® lens

– Strobes are available with two (2) or four (4) field-selectable settings in one (1) unit, and are rated – per ®UL 1971 – for up to:

- 15/30/75/110cd for wall mounted
- 135/185cd for wall mounted
- 15/30/75/95cd for ceiling mounted
- 115/177cd for ceiling mounted

– Strobes operate over an extended temperature range of 32°F to 120°F (0°C to 49°C), and be listed for maximum humidity of 95% RH

– Strobe inputs are polarized for compatibility with standard reverse-polarity supervision of circuit wiring by a Siemens FACP

- **Audible and Audible / Strobe Combinations**

– Horns and horn / strobes are listed for Indoor use under ®UL Standard 464

– Horns are able to produce continuous synchronized output or a Temporal Code-3 synchronized output

– Horns have at least two (2) sound-level settings of 90 and 95 dBA

- **Synchronization Modules**

– The strobe portion, when synchronization is required, is compatible with the Siemens DSC sync modules; the Siemens 50-point, 252-point and 504-point addressable FACPs, as well as with:

- FireFinder® XLS and MXL® FACPs
- PAD-3 or PAD-4™ NAC Extenders with built-in sync protocol

– The strobes will not drift out of synchronization at any time during operation

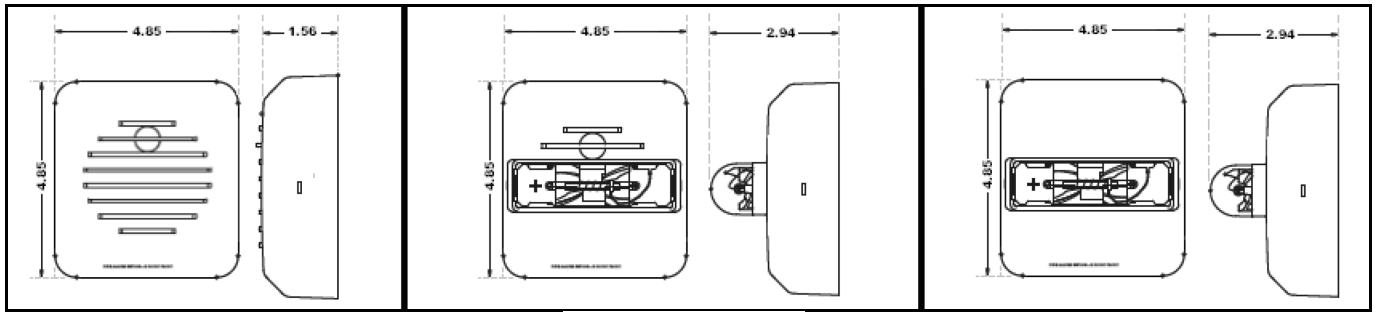
– Audibles and strobes are able to synchronize on a two-wire circuit with the capability to silence the audible, if required

– Strobes revert to a non-synchronized flash-rate, if the sync module or power supply should fail to operate (i.e. – contacts remain closed)

– All notification appliances are listed for Special Applications:

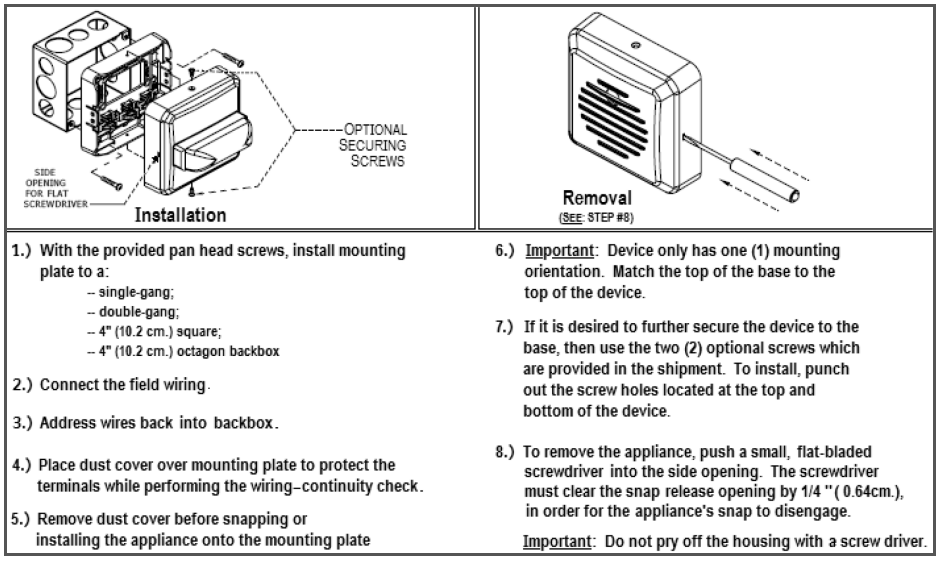
- Strobes are designed to flash at 1-flash-per-second minimum over their ``Regulated Input Voltage Range"
  - **Note:** NFPA-72 specifies a flash rate of 1-to-2 flashes per second, and ADA Guidelines specify a flash rate of 1-to-3 flashes per second
- All candela ratings represent minimum-effective Strobe intensity, based on ®UL Standard 1971
- Series ZH Strobe products are listed under ®UL Standards 1971 and 464 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% (± 2%)
- Series ZH horns are listed under ®UL Standard 464 for audible signal appliances (Indoor use only)

Mounting Diagram



(Shown In Inches)

Mounting Diagram



1.) With the provided pan head screws, install mounting plate to a:
- -- single-gang;
- -- double-gang;
- -- 4" (10.2 cm.) square;
- -- 4" (10.2 cm.) octagon backbox

2.) Connect the field wiring.

3.) Address wires back into backbox.

4.) Place dust cover over mounting plate to protect the terminals while performing the wiring–continuity check.

5.) Remove dust cover before snapping or installing the appliance onto the mounting plate

6.) Important: Device only has one (1) mounting orientation. Match the top of the base to the top of the device.

7.) If it is desired to further secure the device to the base, then use the two (2) optional screws which are provided in the shipment. To install, punch out the screw holes located at the top and bottom of the device.

8.) To remove the appliance, push a small, flat-bladed screwdriver into the side opening. The screwdriver must clear the snap release opening by 1/4 "(0.64cm.), in order for the appliance's snap to disengage.

Important: Do not pry off the housing with a screw driver.

Technical Data

ZH Horn: Wall and Ceiling Mount

Operating Voltage (Special Application) Per ®UL 464			
Input Voltage		**Low***	**High***
DC	16.0 – 33.0VDC	0.018	0.044
FWR	16.0 – 33.0VRMS	0.045	0.075

* Current draw is the same for the Continuous Horn, Code 3 Horn, and March Time settings

ZH Horn / Strobe Series: Wall Mount

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

Input Voltage		15cd	30cd	75cd	110cd	135cd	185cd
DC	16.0 – 33.0VDC	0.078	0.113	0.195	0.259	0.371	0.506
FWR	16.0 – 33.0VRMS	0.141	0.200	0.302	0.406	0.521	0.722

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

Input Voltage		15cd	30cd	75cd	95cd	135cd	185cd
DC	16.0 – 33.0VDC	0.070	0.107	0.188	0.246	0.324	0.455
FWR	16.0 – 33.0VRMS	0.123	0.179	0.290	0.391	0.497	0.699

ZH Horn / Strobe Series: Ceiling Mount

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

Input Voltage		15cd	30cd	75cd	95cd	115cd	177cd
DC	16.0 – 33.0VDC	0.087	0.131	0.222	0.292	0.371	0.506
FWR	16.0 – 33.0VRMS	0.149	0.216	0.331	0.436	0.521	0.722

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

Input Voltage		15cd	30cd	75cd	95cd	115cd	177cd
DC	16.0 – 33.0VDC	0.075	0.121	0.213	0.277	0.324	0.455
FWR	16.0 – 33.0VRMS	0.131	0.195	0.319	0.421	0.497	0.699

ZR Strobe Series: Wall Mount

Current Ratings (AMPs) — *Strobe Setting – (cd)*

Input Voltage		15cd	30cd	75cd	110cd	135cd	185cd
DC	16.0 – 33.0VDC	0.064	0.098	0.175	0.233	0.318	0.445
FWR	16.0 – 33.0VRMS	0.108	0.164	0.268	0.368	0.482	0.684

ZR Strobe Series: Ceiling Mount

Current Ratings (AMPs) — *Strobe Setting – (cd)*

Input Voltage		15cd	30cd	75cd	95cd	115cd	177cd
DC	16.0 – 33.0VDC	0.069	0.111	0.200	0.264	0.318	0.445
FWR	16.0 – 33.0VRMS	0.117	0.180	0.297	0.398	0.482	0.684

ULC Directional Characteristics	
-3 dBA	35 degrees left; 40 degrees right
-6 dBA	55 degrees left; 65 degrees right

ZH and ZH-MC Series: Wall and Ceiling Mount

dBA Sound Output

Description	Volume	Reverberant Per ®UL 464		
		16.0 VDC	24.0 VDC	33.0 VDC
Continuous Horn	Low	77	81	83
	High	83	87	90
Code 3 Horn (or March Time)**	Low	72	76	79
	High	79	82	86

dBA Sound Output

Description	Volume	Reverberant Per ULC-S525-99		
		20.0 VDC	24.0 VDC	31.0 VDC
Continuous Horn	Low	88	90	91
	High	93	95	96
Code 3 Horn (or March Time)**	Low	88	90	91
	High	93	95	96

** Available only in sync mode.

Technical Data – (continued)

Notes:

1. Strobes will produce 1 flash per second over the Input Voltage range.
2. These horn/strobe models are ®UL Listed to operate over a Voltage Range Limit from 16.0VDC to 33.0VDC for 24VDC applications using filtered DC or unfiltered Full-Wave-Rectified (FWR) input voltage.
3. All models are ®UL Listed for indoor ceiling use with a temperature range of +0°C to +49°C (+32°F to +120°F) and maximum humidity of 93% +/- 2% RH.

   The effect of shipping and storage temperatures will not adversely affect the performance of the appliance when stored in 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**	**Description**	**Mounting Options***	**UL**	**ULC**	**FM**	**CSFM**
ZH-R	500-636159	Z Horn: Red	B,D,E,F,X	✓	✓	✓	✓
ZH-W	500-636160	Z Horn: White	B,D,E,F,X	✓	✓	✓	✓
ZH-MC-R	500-636161	Z Horn: Multi Candela (Wall), Red	B,D,E,F,X	✓	✓	✓	✓
ZH-MC-W	500-636162	Z Horn: Multi Candela (Wall), White	B,D,E,F,X	✓	✓	✓	✓
ZH-HMC-R	500-636163	Z Horn: Hi Multi Candela (Wall), Red	B,D,E,F,X	✓	✓	✓	✓
ZH-HMC-W	500-636164	Z Horn: Hi Multi Candela (Wall), White	B,D,E,F,X	✓	✓	✓	✓
ZH-MC-CR	500-636165	Z Horn: Multi Candela (Ceiling), Red	B,D,E,F,X	✓	✓	✓	✓
ZH-MC-CW	500-636166	Z Horn: Multi Candela (Ceiling), White	B,D,E,F,X	✓	✓	✓	✓
ZH-HMC-CR	500-636167	Z Horn: Hi Multi Candela (Ceiling), Red	B,D,E,F,X	✓	✓	✓	✓
ZH-HMC-CW	500-636168	Z Horn: Hi Multi Candela (Ceiling), White	B,D,E,F,X	✓	✓	✓	✓
ZR-MC-R	500-636169	Z Strobe: Multi Candela (Wall), Red	B,D,E,F,X	✓	✓	✓	✓
ZR-MC-W	500-636170	Z Strobe: Multi Candela (Wall), White	B,D,E,F,X	✓	✓	✓	✓
ZR-HMC-R	500-636171	Z Strobe: Hi Multi-Candela (Wall), Red	B,D,E,F,X	✓	✓	✓	✓
ZR-HMC-W	500-636172	Z Strobe: Hi Multi-Candela (Wall), White	B,D,E,F,X	✓	✓	✓	✓
ZR-MC-CR	500-636173	Z Strobe: Multi Candela (Ceiling), Red	B,D,E,F,X	✓	✓	✓	✓
ZR-MC-CW	500-636174	Z Strobe: Multi Candela (Ceiling), White	B,D,E,F,X	✓	✓	✓	✓
ZR-HMC-CR	500-636175	Z Strobe: Hi Multi Candela (Ceiling), Red	B,D,E,F,X	✓	✓	✓	✓
ZR-HMC-CW	500-636176	Z Strobe: Hi Multi Candela (Ceiling), White	B,D,E,F,X	✓	✓	✓	✓
ZB-R	500-636193	Accessory — (Includes base, dust cover, mounting screws and installation sheet)		✓	✓	✓	✓
ZB-W	500-636194	Accessory — (Includes base, dust cover, mounting screws and installation sheet)		✓	✓	✓	✓

✓ = Listed / Approved

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

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

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(Rev. 5)

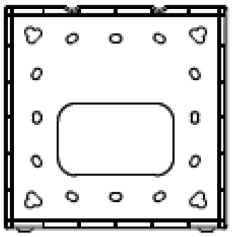
Notification Appliances

Mounting Options

Mounting Diagrams | Mounting Matrixes | Mounting Notes

ARCHITECT AND ENGINEER SPECIFICATIONS

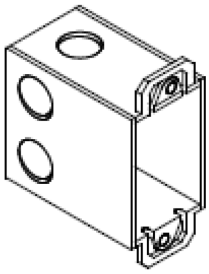
(A) UNIVERSAL MOUNTING PLATE



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

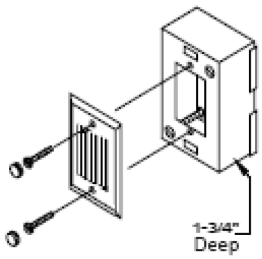
Used with Series
AH, AS

(B) SINGLE-GANG, FLUSH (BO)



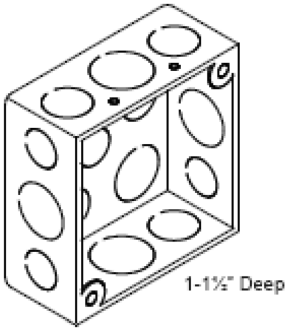
Used with Series
AH, AS, MH, NH, NS, ST, ZH, ZR

(C) SINGLE-GANG, SURFACE (BO)



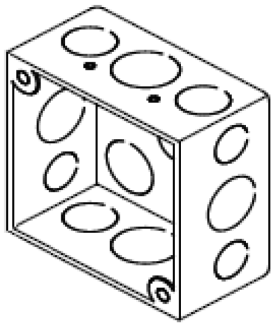
Used with Series
MH

(D) 4" SQUARE, FLUSH (BO)



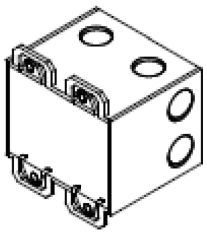
Used with Series
AH, AS, B6, B10, HS, MBDC, MH115, MTH NH, NS, SETSF, SET-ULC, ST, ZH, ZR

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



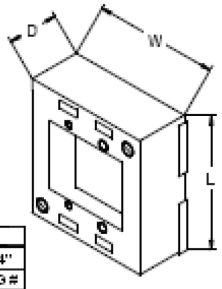
Used with Series
AH, AS, B6, B10, HS, LFS, MBDC, MH115, MTH, NH, NS, SEH, SEFH, SETSF, SET-ULC, ST, ZH, ZR

(F) DOUBLE-GANG, FLUSH (BO)



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

(G) DOUBLE-GANG, SURFACE (BO)



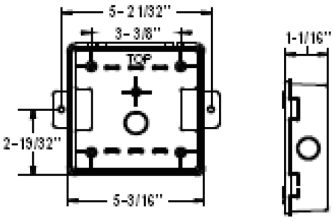
L	W
4-3/4"	4-3/4"
D	GANG #
1-3/4"	2

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.

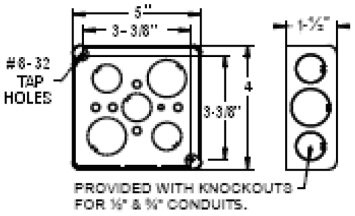


Used with Series
AS (Weatherproof)

(J) BBS BACKBOX

ORDER CODE - RED: 500-636110

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

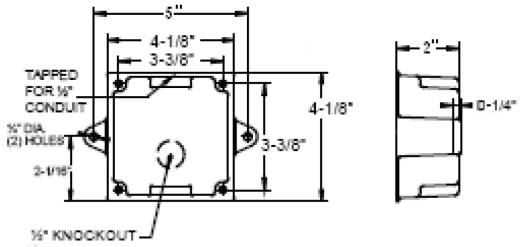


Used with Series
AH, AS, B6, B10, DSC, MBDC, MH115, MTH-15-115, NH, ST

(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.



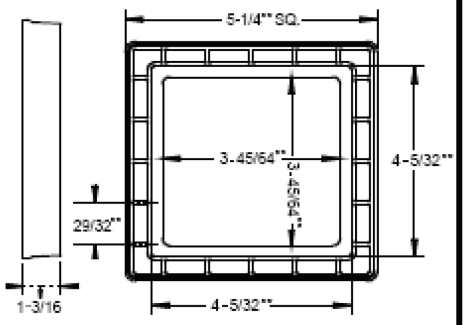
Used with Series
AH, B6, B10, MBDC, MH115, MTH-15-115, SETSF

SIEMENS Industry, Inc.
Building Technologies Division

Mounting Options – (continued)

(L) ISPS2 SURFACE ADAPTER

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

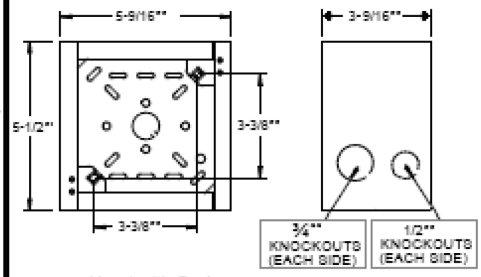


Used with Series
HS, MTH, SET

(P) SBBS BACKBOX

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

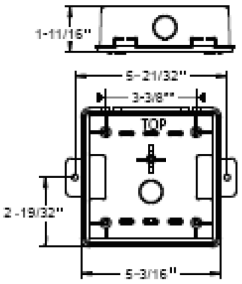
For surface mounting speakers, chimes, and electronic applications.



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

(T) WPSBBS

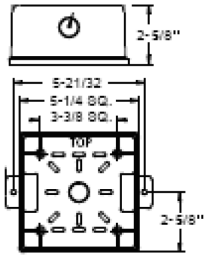
ORDER CODES – RED: 500-636139,
WHITE: 500-636140



Used with Series
ST-WP

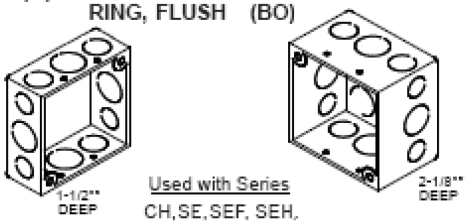
(M) MT-SUR-BOX BACKBOX

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



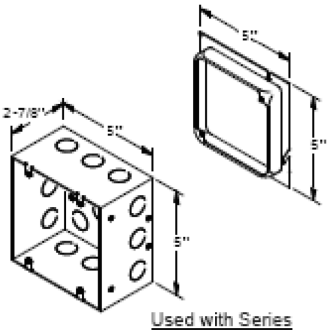
Used with Series
HS, SET
(MTH, MTWP: For surface mounting on MT products.)

(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)

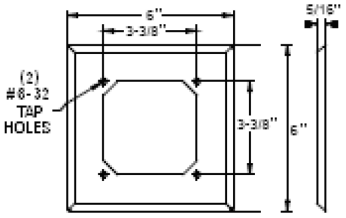


Used with Series
CH, SE, SEF, SET

(R) SFPS SEMI-FLUSH PLATE

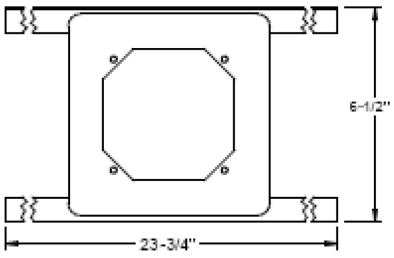
ORDER CODES – RED: 500-636124,
WHITE: 500-636125

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



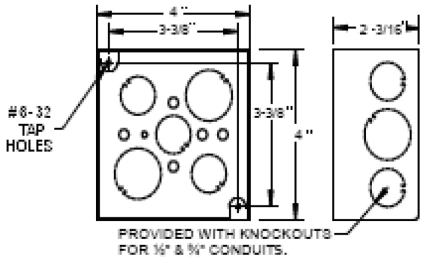
Provisions for (4) J-nuts #8-32 lb 3-⅜"
Square Material: Steel

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.

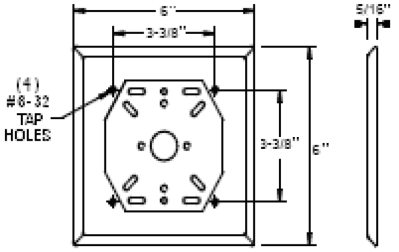


Used with Series
AH, AS, B6, B10, HS, MBDC, MH115, MTH, NH, SETSF, ST

(S) APS ADAPTER PLATE

ORDER CODE – RED: 500-636109

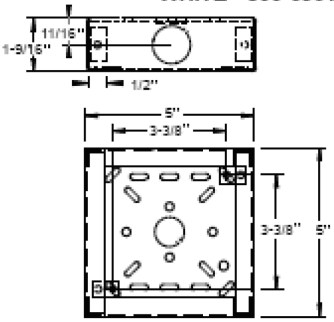
Stamped aluminum adapter plate designed for applications where semi-flush installations cannot be used. The plate can be mounted to standard octagon or round backboxes single or double gang boxes or plaster rings. The backbox and basic unit are then fastened to the plate. This type of mounting is referred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



Used with Series
B6, B10, MBDC

(X) SHBBS SQUARE, SURFACE BACKBOX

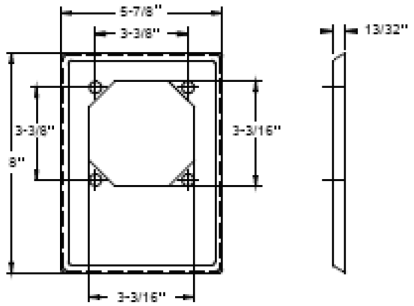
ORDER CODES – RED: 500-636126,
WHITE: 500-636127



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

(O) RETROFIT PLATE

ORDER CODES – [PENDING]

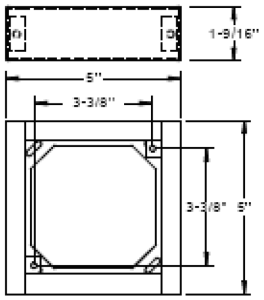


Used with Series
B6, B10, MBDC, MTH, NH, SE

Mounting Options – (continued)

(Y) SERS SQUARE SEMI-FLUSH EXTENSION RING

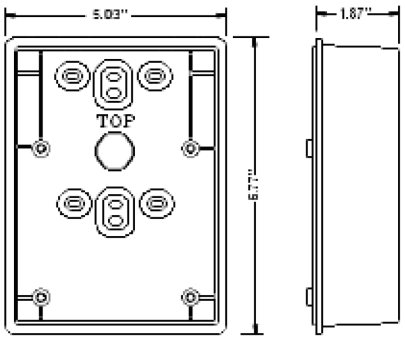
ORDER CODES – RED: 500-636122, WHITE: 500-636123



Used with Series
CH, SE, SEF, SET

(BB) SPSSB

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

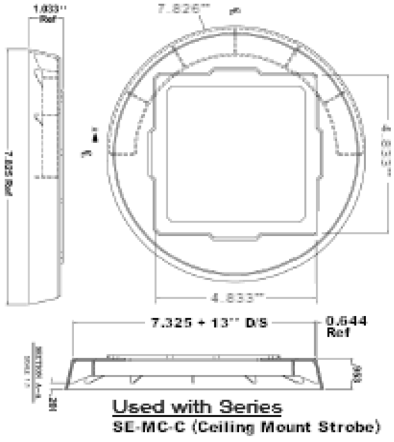


Used with Series
SEH, SEFH

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

(EE) SPEXT EXTENSION RING

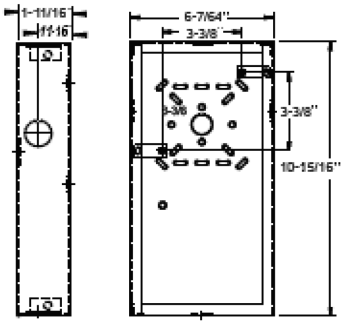
ORDER CODES – RED: 500-636116, WHITE: 500-636117



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

(Z) SBL2S BACKBOX

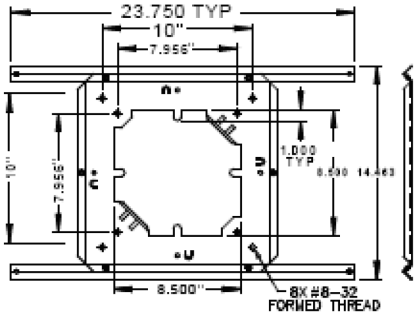
ORDER CODE – RED: 500-636121



Used with Series
ST

(CC) SB-W 8" CEILING SUPPORT BRIDGE

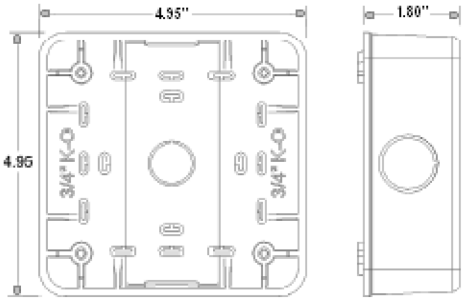
ORDER CODE – WHITE: 500-634882



Used with Series
S 8" Ceiling Speakers

(FF) ZB

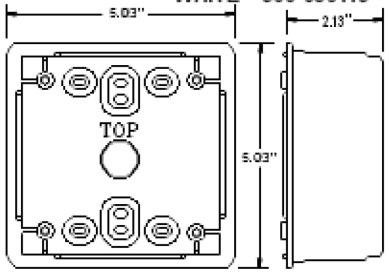
ORDER CODES – RED: 500-636193, WHITE: 500-636194



Used with Series
Z

(AA) SPSB BACKBOX

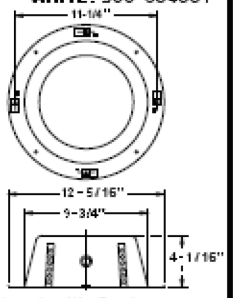
ORDER CODES – RED: 500-636112, WHITE: 500-636113



Used with Series
SE (Speakers), SEFH

(DD) SE-1 8" CEILING SPKR BACKBOX

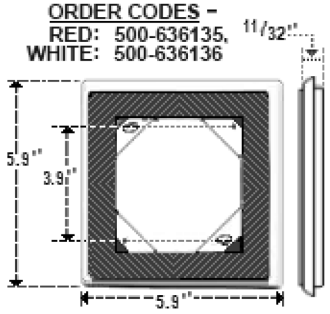
ORDER CODE – WHITE: 500-634881



Used with Series
S 8" Ceiling Speakers

(GG) WFPS PLATE

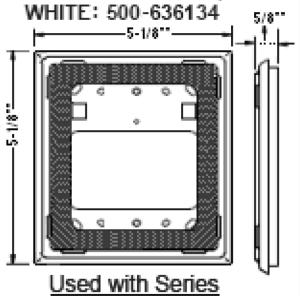
ORDER CODES – RED: 500-636135, WHITE: 500-636136



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

(HH) WFPAS PLATE

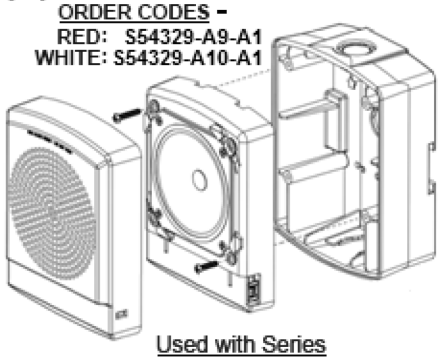
ORDER CODES – RED: 500-636133, WHITE: 500-636134



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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August 2016
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(Rev. 8)

SIEMENS
Ingenuity for life

Desigo® Fire Safety Detectors and Peripherals

Photoelectric Smoke Detector Model FDO421

Architect & Engineer Specifications

- ☐ Compatible with Siemens Model `H'-series devices on the same loop (with Desigo Fire Safety Modular | FireFinder XLS/V | FC/FV20–series fire-alarm control panels)
- ☐ 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-S531: `Open Area Smoke Detection'
  - FM 3230 (Duct)
  - 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 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 and addressable photoelectric smoke detector.
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.

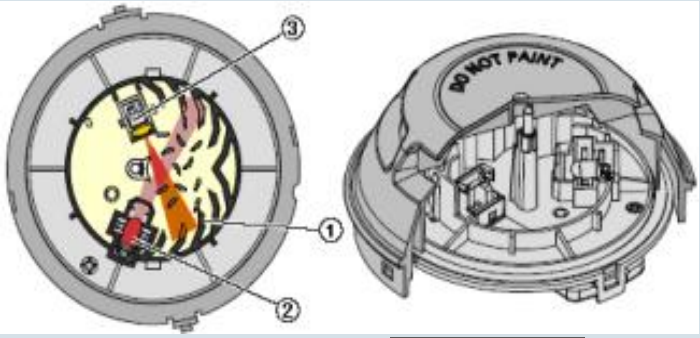
Operation

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**: the computer-graphic 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 (4) 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:

- Sensitive
- Standard
- Robust
- Air-duct

***Sensitive*:** This application parameter set is practically suitable for areas where few misleading sources of false alarm are present, and is appropriate where priority is given to detecting open fires as soon as possible (e.g. – typically a clean application with controlled environmental conditions).

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

Robust: This application parameter set offers improved resistance to false alarms in areas where misleading sources, such as cigarette smoke or exhaust fumes, may cause a nuisance alarm.

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

Sensitivity Settings (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 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] –

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

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

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

All Model 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 requires a two-wire circuit. In many retrofit cases, existing wiring may be used. `T-tapping' is permitted only for Style 4 (Class B) wiring. Model FDO421 is polarity insensitive, which can greatly reduce installation and debugging times.

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 and menu-driven accessory for electronically programming and testing these addressable detectors promptly and reliably. For instance, the field technician selects the accessory's program mode, and enters the desired address.

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

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

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:	1.08 - 2.72% / 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

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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April 2019
(Rev. 8)

SIEMENS

Data Sheet
Fire Safety & Security Products

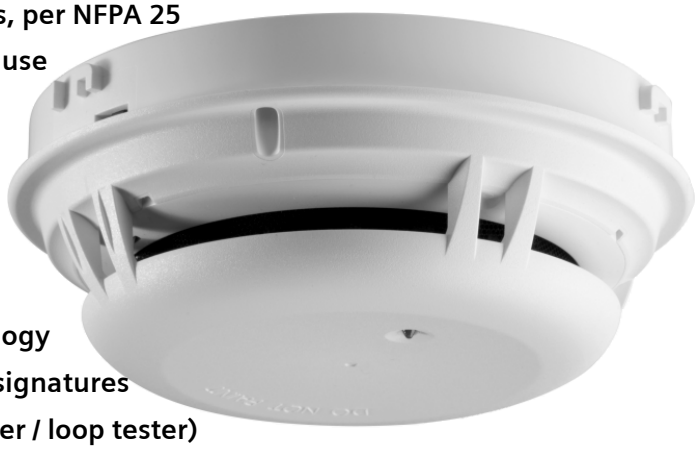
Intelligent Detection Devices

Multi-Criteria Fire Detector [with *ASAtechnology*™]

Model FDOOT441

ARCHITECT AND ENGINEER SPECIFICATIONS

- Advanced / ®UL 268-compliant, multi-criteria fire detector that has dual optical and thermal sensors
- Differentiates between deceptive phenomena and an actual fire (nuisance-alarm avoidance)
- Provides enhanced detection via forward-and-backward light-scattering technology
- ®UL 521 Listed heat detector with five (5) possible field-selectable temperatures; combined with four (4) rate-of-rise options
- Complies with NFPA 76 (Telco standard) as 'VEWFD' high-sensitivity detector
- Compatible with Siemens Model 'H'-series devices on the same loop
- Low-temperature warning for sprinkler systems, per NFPA 25
- ®UL 268A Listed for direct air-duct (4,000 FPM) use
- Supervisory temperature-monitoring feature
- Remote sensitivity-measurement capability
- Automatic environment compensation
- Up to 22 application profiles
- Tri-color detector status LED with 360° viewing
- Polarity insensitive utilizing *SureWire*™ technology
- Responds to both flaming and smoldering-fire signatures
- Compatible with Model DPU (device programmer / loop tester)
- Environmentally efficient alternative to ionization detectors
- Meets guidelines (®UL, NFPA 72) for sensitivity self-monitoring
- Compatible with legacy Model DB-11–series mounting bases



- ®UL 268 / RoHS compliant
- ®UL Listed and ®ULC Pending; CSFM Approved

Product Overview

The Model FDOOT441 is an advanced, multi-criteria fire detector that incorporates a redundant, optical / thermal sensor. Model FDOOT441 uses a unique forward / backward light-scattering technology providing state-of-the-art, unparalleled fire detection to the widest range of fire types.

Model FDOOT441 is programmable as a high-sensitivity detector, and meets the requirements of NFPA 76 Standard (*for the Fire Protection of Telecommunications Facilities*) as a Very Early Warning Fire Detector (VEWFD).

The Model FDOOT441 detector is a flexible multi-purpose detector providing all solutions to meet detection needs. The detector can be field programmed for simultaneous and or independent functionality, depending upon the exact customer and application requirements.

For example the detector can utilize the optical and heat sensors together for enhanced fire detection (multi-criteria) and simultaneously provide independent output for heat detection. The detector is extremely versatile and meets the following standards:

SIEMENS Industry, Inc.
Building Technologies Division

Product Overview — (continued)

- Multi-criteria fire detector (UL 268)
- 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

Model FDOOT441 — which provides extremely accurate and reliable detection with built-in redundancy — utilizes advanced, multi-criteria detection technology known as ASA (Advanced Signal Analysis) that allows the detector to distinguish non-threatening deceptive phenomena.

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

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

Since Model FDOOT441 is a (2) two-wire, addressable device, it is able to function as a multi-purpose detector — satisfying smoke and heat detection in a singular, aesthetically pleasing package. Further, Model FDOOT441 serves as an extremely cost-effective, sensible solution that saves product, installation and maintenance costs (compared to other multiple detector alternatives). Each detector fits into one (1) wall-or-ceiling footprint, and only occupies one (1) address on the signal-line circuit (SLC).

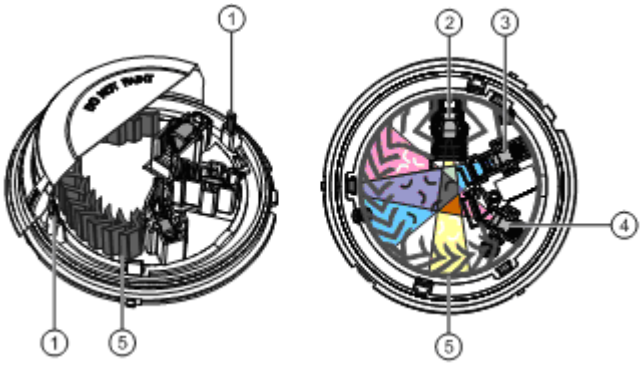
A patented forward / backward, light-scattering technology — which is able to distinguish both small and large products of combustion — operates at the core of each Model FDOOT441 detector.

Additionally, each Model FDOOT441 provides an environmental-friendly solution to ionization detectors, eliminating the need for a radioactive source and eventual disposal requirements. Thus, each detector is capable of detecting both smoldering and flaming fire — all in ecologically efficient manner — and is a valid, RoHS-compliant (Restriction of Hazardous Substances) detection alternative to ionization detectors.

Two (2) thermal sensors make each Model FDOOT441 detector a robust, reliable device suitable for the most challenging applications.

Operation

Forward / Backward Light-Scattering Technology



1. **Heat sensors**
2. **Receiver**
3. **Backward scatterer**
4. **Forward scatterer**
5. **Labyrinth**

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 acts as forward scatterer, the other sensor as a backward scatterer. The scattered light then hits the receiver (photodiode) and generates a measurable electric signal. The combination of a forward-and-backward scatterer facilitates optimum detection, as well as differentiates between light-and-dark particles / particle size. This type of detection creates standardized, responsive behavior and optimizes the differentiation between wanted signals and deceptive phenomena.

In addition, the heat sensors make it possible to detect fires without smoke generation:

- ✓ 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)

Model DPU

Model FDOOT441 is compatible with the Device Program / Test Unit accessory, which is used to program and verify the address of the detector. The technician selects the accessory's program mode, and enters the desired address. Model DPU automatically sets and verifies the address and tests the detector.

Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods — such as dials or switches — and reduces installation and service costs by electronically programming and testing the detector prior to installation.

Model DPU operates on AC power or rechargeable batteries, providing flexibility and convenience in programmer and testing equipment from practically any location.

When 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.

Field-selectable application profiles

Model FDOOT441 provides 22 user-friendly, field-selectable application profiles, indentified with universally known names (e.g. — Hotel, Telco, Office, Parking Garage, Dormitory, and Data Center etc.) Refer to installation manual: **P/N — A6V10324655** for a complete list and description of application profiles.

Due to generic-name classification, 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. The aforementioned ranges provide the customer with maximum flexibility to program and easily adjust the temperature settings to suit multiple application needs within a building or 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 as prevention of water freezing in pipes for water-based suppression systems.

Ambient supervisory feature for temperature

Another highlight for Model FDOOT441 is supervision of ambient temperatures, allowing the end user to set an unique, specified 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 suits the NFPA 72 sensitivity requirements. When connected with a compatible FACP, Model FDOOT441 detects automatic-and-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

The Model FDOOT441 detector contains a tri-color LED indicator, capable of flashing any one (1) of three (3) distinct colors: Green, Yellow, or Red. During each flash interval, the microprocessor-based detector monitors the following:

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

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

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

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

Installation

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

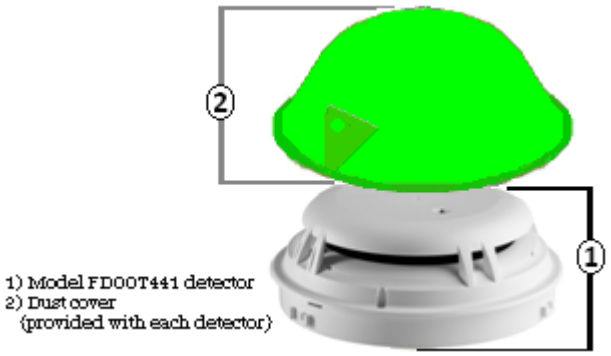
The Model DB-11 base can be used with the optional Model LK-11 detector locking kit, which contains 50 detector locks and an installation tool to prevent unauthorized removal of the detector head. Model DB-11 has decorative plugs to cover the outer mounting screw holes.

Model FDOOT441 may be installed on the same initiating circuit with the Siemens Model 'H'-series detectors (Models HFP-11 and HFPT-11); Model 'HMS'-series manual stations; Model 'HTRI'-series interfaces; Model HCP output-control devices, or Model 'HZM'-series of addressable, conventional zone modules.

Each detector consists of the following:

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

Each Model FDOOT441 fire detector is shipped with a protective dust cover:



All Model FDOOT441 detectors are approved for operation within the ®UL-specified temperature range of 32° to 120°F (0° to 49°C) — depending on heat-detector configuration (see to installation manual: **P/N A6V10324655**) for details.

Application Data

Installation of the Model FDOOT441 series of fire detectors requires a two-wire circuit. In many retrofit cases, existing wiring may be used. 'T-tapping' is permitted only for Style 4 (Class B) wiring. Model FDOOT441 is polarity insensitive, which can greatly reduce installation and debugging time.

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; minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors in close proximity to ventilation or heating and air conditioning outlets. Exposed joints 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 Industry — 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 Pending installation instructions — included with every Siemens – Fire Safety detector — and local codes as for all fire protection equipment.

Technical Data

Operating Temperatures: +32°F (0°C) to 120°F (49°C)
depending upon heat-detector configurations (see to installation manual: **P/N A6V10324655***) for details*

Heat-Detector Range: +135°F (57°C) to 175°F (79°C)

Thermal Rating:

FDOOT441 Selectable Temp. Profiles

Fixed temperature 135°F
Fixed temperature 145°F
Fixed temperature 155°F
Fixed temperature 165°F
Fixed temperature 175°F
Fixed temperature 135°F + Rate of Rise (RoR) 15°F
Fixed temperature 175°F + Rate of Rise (RoR) 15°F
Fixed temperature 135°F + Rate of Rise (RoR) 20°F
Fixed temperature 175°F + Rate of Rise (RoR) 20°F

Selectable Alarm Threshold Setting Profiles

2.50 % / ft. Threshold
3.00 % / ft. Threshold
2.50 % / ft. Threshold, verified
3.00 % / ft. Threshold, verified

Detector Sensitivity Range: ®UL: 0.77% to 3.82% / ft.
NFPA 76 (Telco) VEWFD:
0.2% / ft. Pre-*alarm*,
1.0% / ft. *Alarm*

Application Profiles: 22 (field configurable)

Programmable Supervisory Temperature Warning
available with compatible FACPs:
-4°F (-20°C) to 120°F (49°C)

Relative Humidity: 0-95%; non-condensing

Air Velocity –
(Open Area): 0–4,000 feet-per-minute (fpm)
Direct-in-Duct: 0–4,000 (fpm)

Air Pressure: No effect

Maximum Spacing: 30-foot centers (900 sq. ft.), per NFPA 72 and ULC-S524 pending

Input Voltage Range: 13VDC – 32VDC

***Alarm* Current:** 650µA, max.

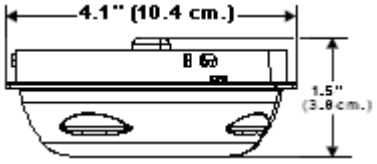
Quiescent (Standby) Current: 280µA – 360µA

Detector Weight: 0.281 lbs. (0.128 kg.)

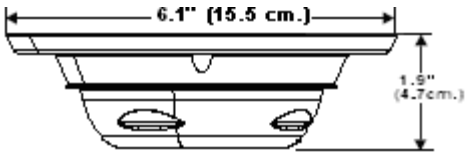
Approvals / Standards
®UL 268 NFPA 25
®UL 268A NFPA 72
®UL 521 NFPA 76
ULC-S524 pending

Mounting Diagram

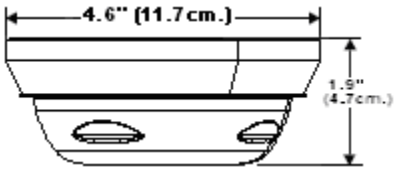
Dimensions



Model FDOOT441



Model FDOOT441
with Model DB-11 base



Model FDOOT441
with Model DB-11E base

Compatible FACPs

Model Number	Data Sheet Number	Description
FC2005	6813	50-point panel
FC2025	6815	252-point system (networkable)
FC2050	6815	504-point system (networkable)

Details for Ordering

Model Number	Part Number	Description
FDOOT441	S54320-F7-A1	Multi-Criteria Fire Detector with ASA*technology*™
DB-11	500-094151	Detector Mounting Base for Series 11
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" octagon-box mount, red
RL-HW	500-033310	Remote Alarm Indicator: single-gang box mount, red
LK-11	500-695350	Base Locking Kit for Series 11 Detectors

In Canada, order:

Model Number	Part Number	Description
DB-11C	500-095687	Detector Mounting Base for Series 11 Detectors (ULC pending)

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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(SII-FS)
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October 2011
New Issue

Specialized Devices

Air-Duct Housings —> FDBZ Series

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

ARCHITECT AND ENGINEER SPECIFICATIONS

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

Remote alarm indicator
(Model FDBZ492-RTL)

FDBZ-series of air-duct housings
(FDBZ492, FDBZ492-HR, FDBZ492-R and FDBZ492-RP)

Watertight housing
(Model FDBZ-WT)

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

Product Overview

The Siemens — Fire Safety Model 'FDBZ'-series of air-duct-detector housings are designed to be used with the Siemens Model 'H'-series, 'FD'-series and the Model OP121 detectors. Designed for installation directly to heating, ventilating and air-conditioning (HVAC) duct systems, the Model 'FDBZ'-series 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 for the respective conventional fire system.

Notes – (cont.'d): 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 and OP121 detectors can be verified for calibration via LED visual status or a Model RSAW-11, Model RSAC-11 or Model 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 range for Models HFP-11, FP-11, SFP-11, HFPO-11, SFPO-11, FDO421, FDOOT441 and FDOOTC441is 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.

Specifications — (continued)

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

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

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

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

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

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

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

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

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

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

Sampling Tube Selection Table

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

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

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

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

Technical Data

Operating Temperature Ranges:	+32°F (0°C) to 120°F (49°C)
Sampling Tube Pressure Range of Differences:	> 0.01 inches; < 1.2 inches of water column
Relative Humidity:	0 – 95%; non-condensing
Air Pressure / Altitude Range:	No effect / No limitations
Air-Duct Velocity:	100 – 4,000 ft. / min (0.51— 20m / sec)
Dimensions:	{H-x-W-x-D} ▪ Rectangular: 14.38" -x- 5" -x- 2.5" (37 cm. -x- 12.7 cm. -x- 6.36 cm.) ▪ Square: 7.75" -x- 9" -x- 2.5" (19.7 cm. -x- 22.9 cm. -x- 6.36 cm.)
Detector Weight:	1.8 Lbs. (0.82 Kg.)

Notes to Architect: When building codes regulate the location of detectors within ventilating systems, make sure the number and locations of detectors are in accordance with the code regulations.

For additional electrical specifications, please see the installation instructions of the corresponding air-duct housing.

Operation

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

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

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

Products included with the air-duct housing:

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

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

Details for Ordering

Model	Part Number	Description
FDBZ492	S54319-B22-A1	A two-wire addressable or conventional duct detector (without relays) designed for direct use on heating, ventilating and air-conditioning (HVAC) air-duct systems. When equipped, the air-duct detector housing will signal the presence of smoke being carried through the duct system. For use with the following Models: – HFP-11 – FDO421 – OP121 – SFP-11 – FDOOT441 – PE-11 – HFPO-11 – FDOOTC441 – PE-11C – SFPO-11 – FP-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 – FP-11 – SFP-11 – FDOOT441 – HFP-11 – SFPO-11 – FDOOTC441 – HFPO-11

Details for Ordering – (continued)

Model	Part Number	Description
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: – OP121 – PE-11 – PE-11C
FDBZ492-RP	S54319-B25-A1	A four-wire conventional duct detector with relays and a built-in power supply. Housing is designed for direct use to HVAC air-duct systems. It has a relay base with a built-in power source. When equipped with conventional air-duct housing, this duct detector will signal the presence of smoke being carried through the duct system. For use with the following Models: – OP121 – PE-11 – PE-11C
FDBZ492-RTL	S54319-S27-A1	Device is used for manual testing via a key-switch for duct-housing Models FDBZ492-R, FDBZ492-RP and FDBZ492-HR. Device mounts remotely from the conventional and addressable air-duct housing, allowing for manual relay-output control. The duct-detector remote key-switch also indicates the current state of the detector. For use with the following Models: – FDBZ492-R – FDBZ492-RP – FDBZ492-HR
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-RP
ST-10	500-649710	Sampling tube for Ducts 6" to 1'
ST-25	500-649711	Sampling tube for Ducts over 1' to 3'
ST-50	500-649712	Sampling tube for Ducts 3" to 5'
ST-100	500-649713	Sampling tube for Ducts 5' to 10'

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

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(Rev. 4)

Peripheral and Detection Devices
Initiating Devices

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

SIEMENS
Ingenuity for life

Architect & Engineer Specifications

- ☐ Built-in dual isolators:
  - Modern technology supports comprehensive system-and-interface communication
  - Allows up to 190 isolators per loop and 30 devices between isolators
- ☐ Dual input on Model XTRI-D, via a single address
- ☐ Integral single-pole, double-throw (SPDT) relay on Model XTRI-R:
  - Up to 4 Amps.
- ☐ Meets Class X (Style 7) survivability requirements
- ☐ Low current draw
- ☐ Polarity insensitive (in non-isolation mode) via *SureWire™* technology:
  - Modern technology supports comprehensive system and interface communication
- ☐ Multi-color light-emitting diode (LED) indicates system status:
  - GREEN | AMBER | RED
- ☐ Mounts in a 4-inch (10.2 cm.) square, 2–¼" (5.7 cm.) deep single-gang or double-gang back box
- ☐ Non-obstructive front-end access to programming port and wiring terminals
- ☐ Device Programmer | Test Unit programs and verifies address, as well as tests device functionality
- ☐ Restriction of Hazardous Substances (RoHS) compliant
- ☐ UL864 | UL2572 | UL2017 Listed; CAN/ULC-S527 & CAN/ULC-S576 Listed
  - File S24304, Vol. 3

Product Overview

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

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

Specifications

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

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

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

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

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

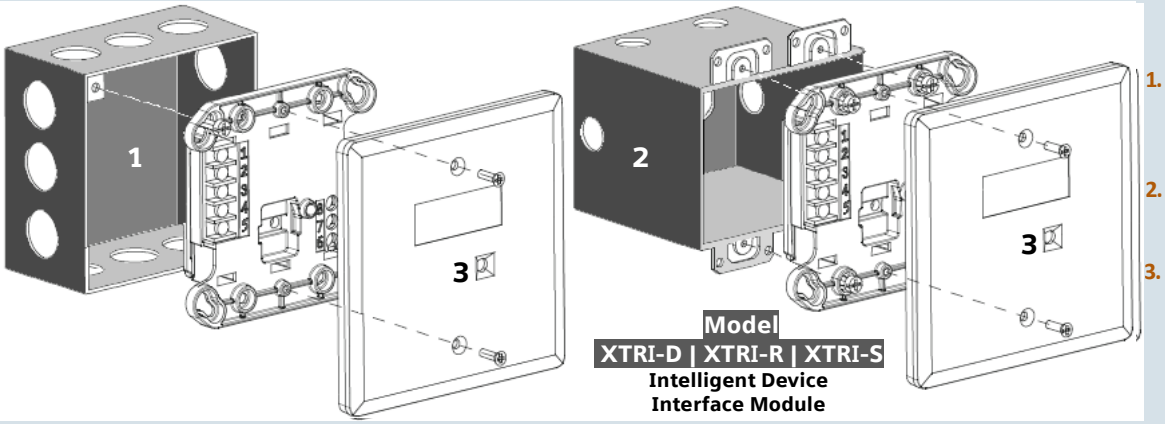
Advanced troubleshooting is provided by compatible panels by identifying when a XTRI-series interface module is configured as an isolator, but is wired incorrectly in a polarity-insensitive mode.

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

Model XTRI-S

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

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



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)

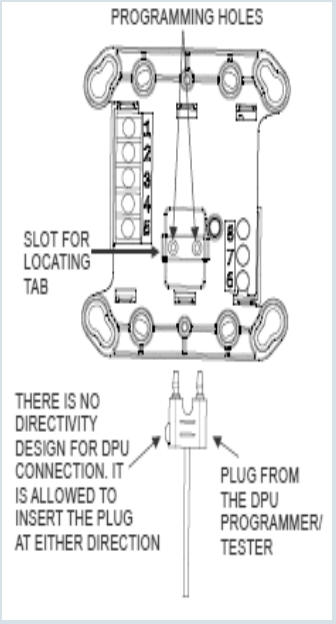
Model XTRI-R

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.

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

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

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

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

Compatibilities

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

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

Temperature and Humidity Range

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

Electrical Ratings

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

Electrical Ratings

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

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

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

Details for Ordering

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

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

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April 2019 –
Rev. 1

SIEMENS

Data Sheet
Fire Safety Products

Intelligent Initiating Devices

HMS-Series

Models HMS-D, HMS-S

ARCHITECT AND ENGINEER SPECIFICATIONS

- **Durable design**
- **Shock-and-vibration resistant**
- **Single-action (Model HMS-S) and double-action (Model HMS-D) stations**
- **Pull-down lever is down, until manually reset**
  - Reset with Allen Key
  - No break rods necessary
- **Custom microcomputer-chip technology**
- **Polarity insensitive via *SureWire*™ technology**
- **Dynamic supervision to the fire-alarm control panel (FACP)**
- **Device Programmer Unit (Model DPU) programs and verifies address and tests functionality of each device**
  - Electronic-address programming (EEPROM) is easier, as well as more efficient, dependable
- **Surface or semi-flush installation**
- **Two-wire operation**

Model HMS-D
Dual-Action Station

Model HMS-S
Single-Action Station

- **Americans with Disabilities Act (ADA) Compliant**
- **ⓊUL Listed;**
  FM (#3015946 & 3052621), CSFM (#7150-0067:0036) and NYC Fire Dept. (#202-12E, Vol. 1) Approved

Product Overview

The Siemens intelligent manual fire-alarm boxes (Models HMS-S and HMS-D) provide the most advanced method of address programming and supervision. Each Model HMS-series manual box achieves the state of an 'intelligent-initiating device' by incorporating custom microcomputer-chip technology with sophisticated, bi-directional communication capabilities with the panel, which include Siemens 50-point, 252-point and 504-point addressable FACPs.

Specifications

Models HMS-S and HMS-D are constructed of durable, molded polycarbonate material that is matte finished in red with raised white lettering. The housing accommodates a 'pull-down' lever, which — when operated — locks into position; indicating the fire-alarm box has been activated.

The pull down lever remains down / in the 'locked' position, until the fire-alarm box is manually reset. The manual fire alarm box can only be reset by opening the hinged housing cover with an Allen key; followed by closing and locking the cover. Models HMS-S and HMS-D operate with Siemens — Fire Safety FACPs. The microcomputer chip to the manual fire-alarm box has the capacity of storing — in memory — identification and important operating-status data.

Models HMS-S and HMS-D are fitted with screw terminals for connection to an addressable circuit, and can be either surface or semi-flush mounted.

The Model HMS-series manual fire-alarm boxes derive their power, communicate information and receive commands over a single pair of wires. Each box is compatible on the same circuit with all Model 'H'-series detectors, interfaces or addressable, conventional zone modules.

Device / Programmer Tester – Model DPU

Innovative technology from Siemens — Fire Safety also allows all Model HMS-series intelligent manual fire-alarm boxes to be programmed via the Device Programmer / Test Unit (Model DPU). The programmer / tester is a compact, portable and menu-driven accessory that makes programming and testing of a manual fire-alarm box device faster, easier and more dependable than previous methods.

Model DPU eliminates the need for mechanical-addressing mechanisms of a device because Model DPU electronically sets the address of the manual fire-alarm box into its microcomputer chip, non-volatile memory. Therefore, vibration, corrosion and other conditions -- which can compromise the functionality of mechanical-addressing mechanisms – are no longer an issue.

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Technical Data

Electrical:

Current Draw (Active or Standby)	1.4mA

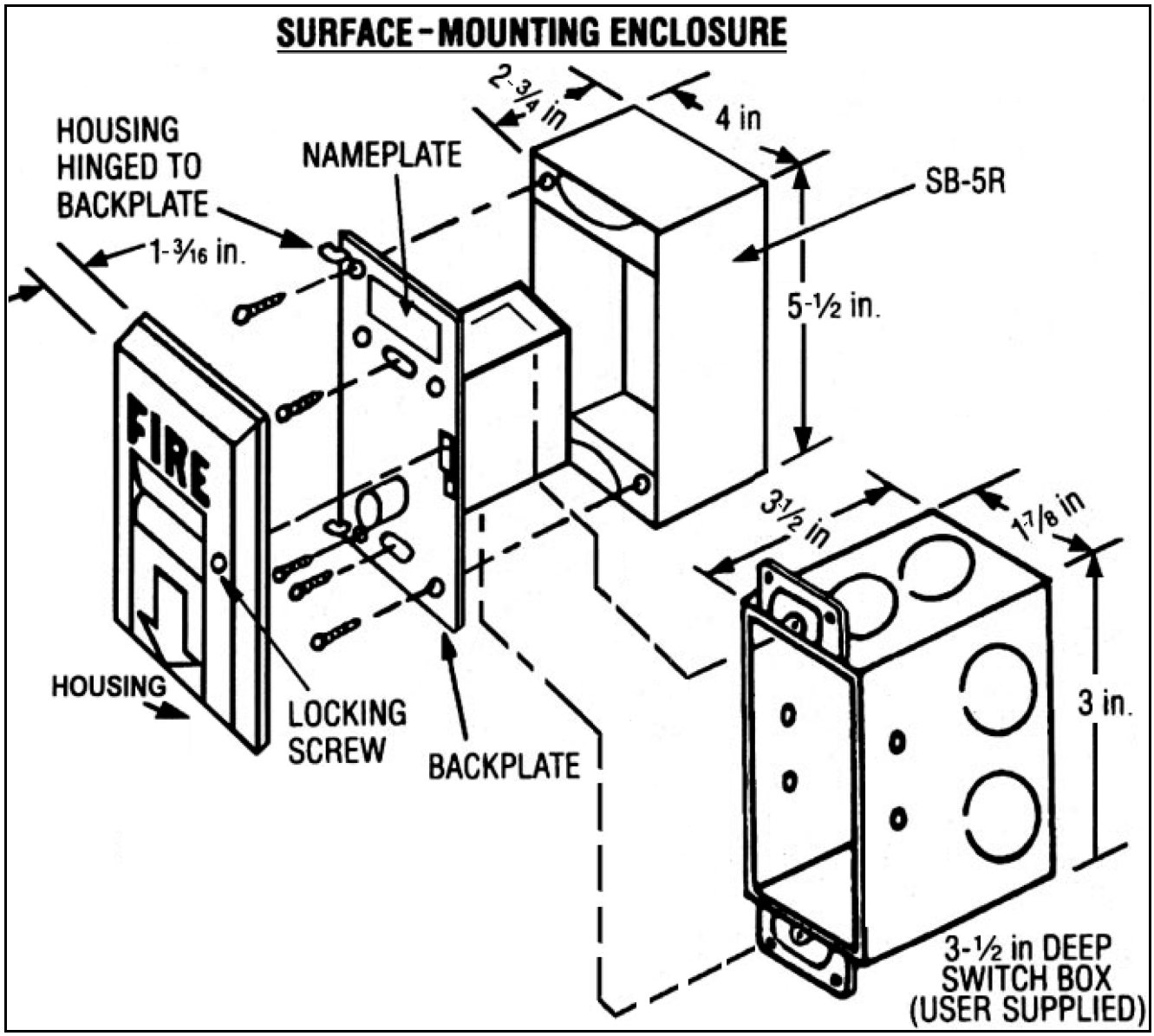
Indoor / Dry Conditions:

Operating Temperature Range	32° – 100°F (0° – 38°C)
Operating Humidity Range	0 – 93%, non-condensing

Details for Ordering

Model	Part Number	Description	Shipping Weight	
HMS-D	500-033400	Addressable Manual Fire Alarm Box, Dual Action	2.5 Lbs.	1.13 Oz.
HMS-S	500-033200	Addressable Manual Fire Alarm Box, Single Action	2.0 Lbs.	0.9 Oz.
LTP	500-620490	Reset Tool Package [contains two (2) tools]	0.5 Lb.	0.23 Oz.
SB-5R	310-019860	Surface-Mounting Box	1.5 Lbs.	0.7 Oz.

Mounting Diagram



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
Ingenuity for life

Desigo® Fire Safety Modular system

Device Loop Card
Model XDLC

Architect & Engineer Specifications

- ☐ Supports up to 252 addressable points
- ☐ Operates and maintains all devices residing on up to four (4) `Class A', eight (8) `Class B' addressable circuits
- ☐ Compatible with Siemens intelligent, addressable 'X' and 'H'-series devices:
  - Multi-criteria / Carbon Monoxide (CO) Detector with ASA*technology*™
  - Multi-criteria Detector with ASA*technology*™
  - Multi-criteria Detector
  - Thermal (Heat) Detector
  - Input / Output Interface Module
- ☐ Polarity insensitive (in non-isolation mode) via *SureWire*™ technology:
  - Modern technology supports comprehensive system and interface communication
- ☐ Quantity 16 diagnostic light-emitting diodes (LEDs) for easy circuit diagnosis
- ☐ Microchip controls on-board isolators
- ☐ Device Programmer / Tester (Model DPU) programs and verifies device's address:
  - programming capabilities include testing a duct detector, as well as other Siemens addressable devices
- ☐ Supports `Class B' | `Class A' | `Class X' wiring
- ☐ Supports T-Tapping
- ☐ Degrade mode
- ☐ UL864 | CAN / ULC Listed

Product Overview

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

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

Specifications

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

Model XDLC is polarity insensitive via *SureWire* technology, which greatly reduces commissioning time normally spent tracing down crossed-field wiring. Model XDLC communicates detector data, such as sensitivity of intelligent fire detectors and logic-function information, to the Desigo Modular Operating Unit (Model FCM2041-U2), which is located within a given Desigo Modular system.

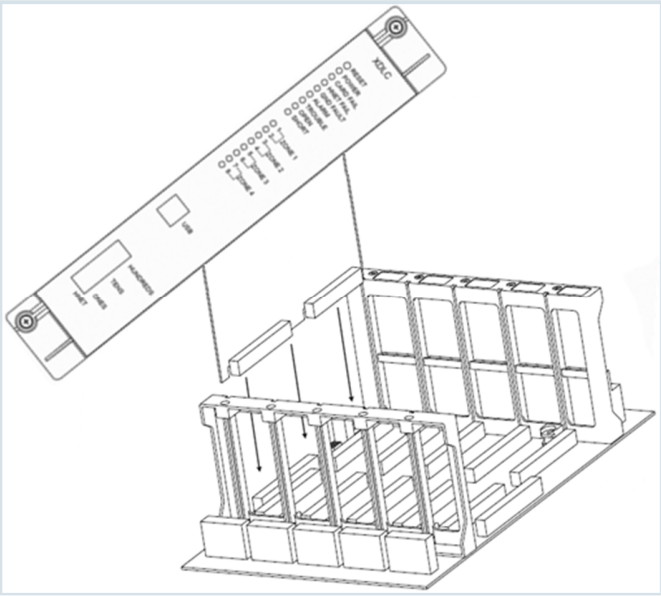
Each device loop card supports four (4) `Class A', eight (8) `Class B' circuits for up to a total of 252 addressable devices – as well as relay and audible bases, remote lamps and duct-detector housings in any combination.

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

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

Model XDLC
Side View

Model XDLC
Front View



Model XDLC

Diagram of an `Class X' Device Loop Card mounted to a Siemens Card Cage

Temperature and Humidity Range

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

Technical Data

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

Details for Ordering

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

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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(Rev. 2)

Desigo® Fire Safety Modular system

Operator Interface
Model FCM2041-U2

Architect & Engineer Specifications

- ☐ Main-operator interface with user-prompted lighted, large buttons for system control, operating sequence
- ☐ Large, 6-inch (15.2 cm) color display
- ☐ Touch-screen driven, system-control menus
  - Context-sensitive `Help' button
  - Navigation buttons and `More Info'
  - Additional tabs , including queues for mass notification (MNS)
- ☐ Go-to-beginning; go-to-end queue buttons
- ☐ Front-end light-emitting diodes (LEDs) for `Alarm' | `Supervisory' | `Trouble' commands
  - Partial-system disable LED
  - Audible Status LEDs (ON and Silenced)
- ☐ Global annunciation and control capability
- ☐ Integrated slots for switch-control (Model SCM-8) and LED-control (Model LCM-8) modules
- ☐ Mounts in any of one (1) of the following enclosures:
  - Model CAB1 (smallest cabinet)
  - Model CAB2 (medium cabinet)
  - Model CAB3 (largest cabinet)
  - Model REMBOX2 (two-module remote enclosure)
  - Model REMBOX4
  - (four-module remote enclosure)
- ☐ 40 software-programmable `User Macro' switches
- ☐ UL864 & CAN / ULC-S576 Listed

Product Overview

The Operator Interface (OI), Model FCM2041-U2, is the central processor and user interface for each Desigo Fire Safety Modular (Desigo Modular) system. Model FCM2041-U2 provides straightforward, front-end access for an end-user to perform system tasks, such as: acknowledge events; control addressable points (e.g. – intelligent detectors | notification appliance circuits [NACs]), and reset the system.

In terms of hardware used for Desigo Modular, Model FCM2041-U2 Operator Interfaces can be mounted in full-size CAB1 | CAB2 | CAB3 enclosures.

Additionally, remote, multi-module-mounted enclosures for Desigo Modular, Models REMBOX2 and REMBOX4, can each house one (1) Model FCM2041-U2 OI.

It is through the custom-configuration software tool, *Zeus-D*, that Model FCM2041-U2 OIs are able to provide programmed logic and panel supervision.

Specifications

Each Desigo Modular Operator Interface contains a full liquid-crystal display (LCD) at the front end. An audible sounds from a Model FCM2041-U2 operator interface when there are unacknowledged events. The display is surrounded by keys that are used to control the displayed information and to navigate through these screens. Keys are also readily available in order for the end user to obtain help information, as well as to enter into the menu features of a Model FCM2041-U2 OI.

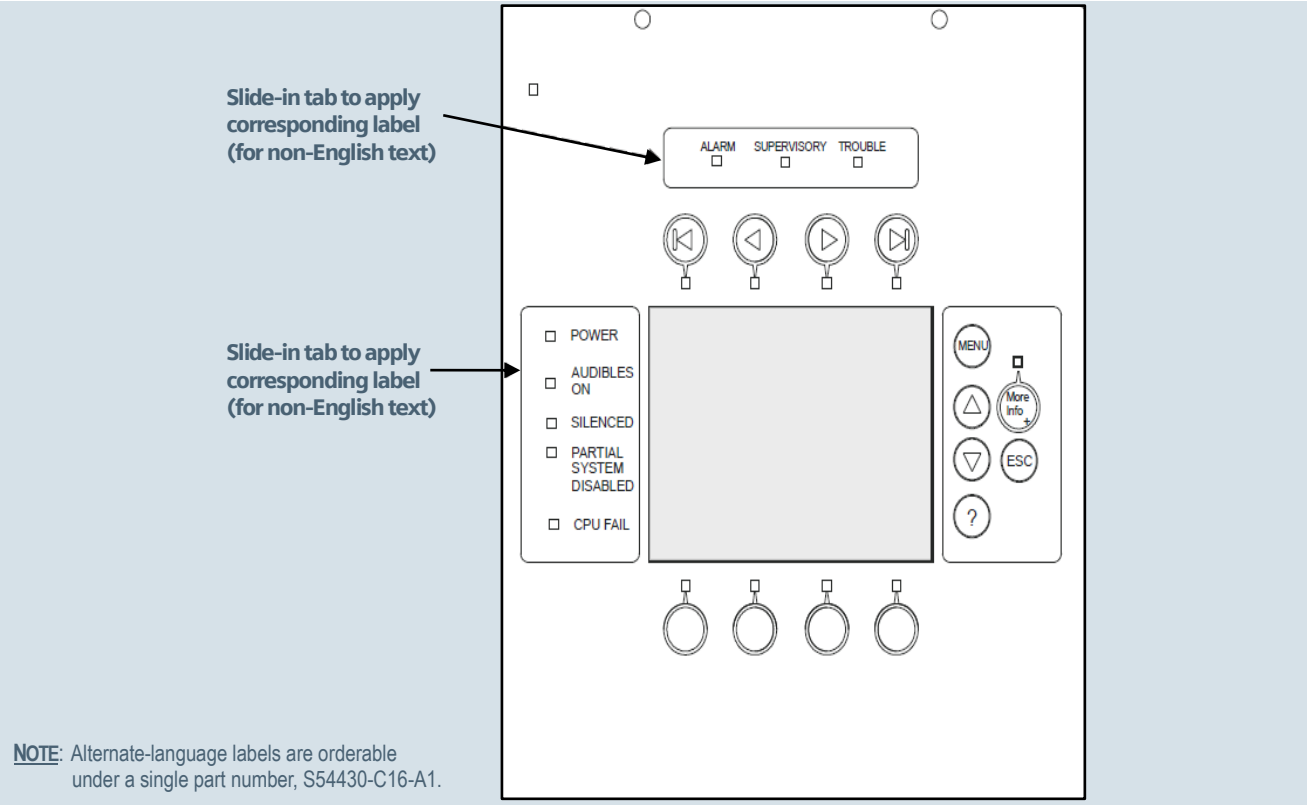
Additional diagnostic displays can be found at the back end of each Model FCM2041-U2 to provide efficiency to the end-user in troubleshooting the Desigo Modular fire-alarm control panel (FACP).

A 40-inch (1.02m) long 60-pin wire cable, **P/N 555-133743**, is used to connect a Desigo Modular Operator Interface, Model FCM2041-U2 to the Siemens five-slot card cage, Model CC-5.

Slide-in labels are orderable under a single part number for applications that require French (Canadian) | Spanish | Portuguese-Brazilian text.

NOTE: Alternate-language labels are ordered separately.

Model FCM2041-U2
Operator Interface Unit mounted in a Model CAB1 enclosure



Model FCM2041-U2
Desigo Modular
Operator Interface

Operation

In normal | standby condition, a Model FCM2041-U2 OI displays the site-specific, customized message; the time and date, and a rundown of the system status.

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

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

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

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

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

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

NOTE: Refer to installation manual: **P/N – A6V11231622** for the most detailed information on the Desigo Modular Operator Interface.

Temperature and Humidity Range

Desigo Modular Operator Interfaces are UL Listed | ULC Listed. Environmental operating conditions for each Model FCM2041-U2 operator interface is 32°F (0°C) to 120°F (49°C) with a relative humidity of no greater than 95%, non-condensing.

Electrical Ratings

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

Details for Ordering

MODEL OR TYPE	PART NUMBER	PRODUCT
FCM2041-U2	S54430-C17-A1	Desigo Modular Operator Interface

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Data Sheet

Specialized Detection Devices

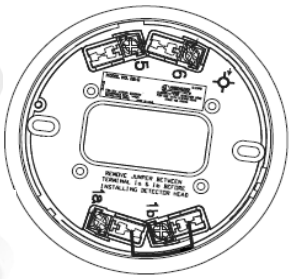
'DB' Series Detector Bases

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 optional Model LK-11 detector-locking kit
- **Each detector base also functions with the addressable Model 'H' series, as well as Models OH921, OP921, OOH941, OOHC941 and HI921 intelligent detectors**
  - 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 octagon, square or single-gang electrical box**
  - Model DB-11 has plugs to cover the outer-mounting screw holes
- **Model DB2-HR mounts on a 4"-square, double-gang electrical box**


Model DB2-HR


Model DB-11E

- **UL268 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 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" (15.2 cm) diameter, and the diameter for Model DB-11E is 4.5 inches (11.4 cm).

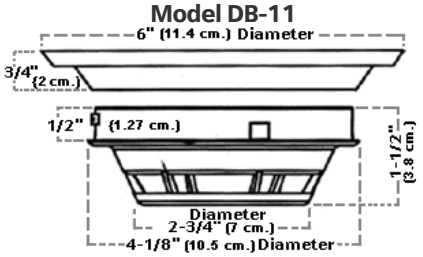
Specifications — (continued)

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

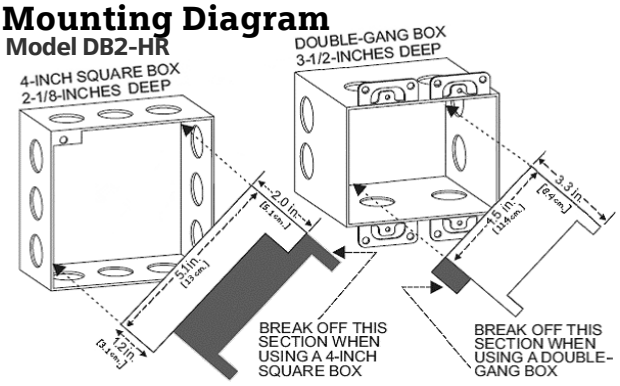
Model DB-11



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

Mounting Diagram

Model DB2-HR



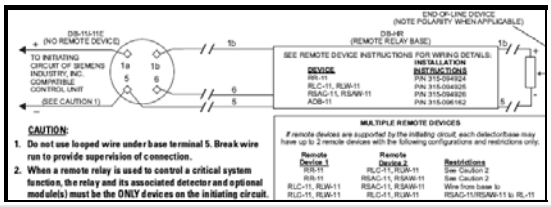
Cerberus™ PRO

Fire Safety & Security Products

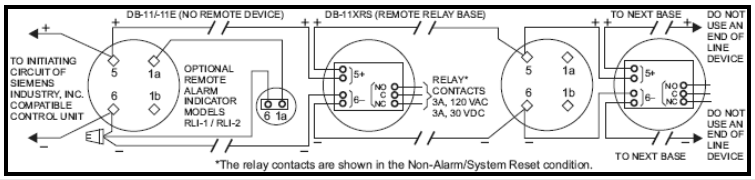
9907

Model 'DB' Series of Detector Bases

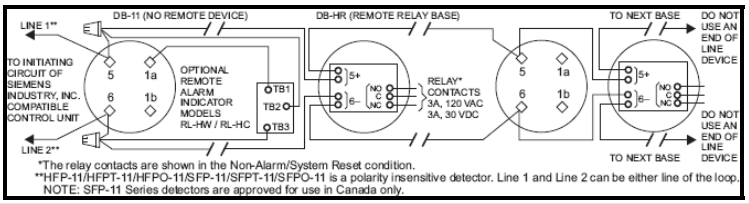
Wiring Diagrams



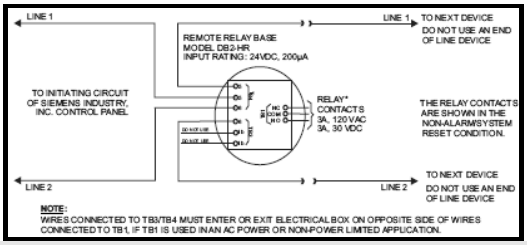
Note: The illustration above is typical wiring for Models DB-11 and DB-11E (using Models PE-11, PE-11T, DT-11, OH121, OP121, and HI121 detectors.)



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 standard and advanced detectors; backwards compatible with Model 'H'-series intelligent detectors
DT-11	500-095430	135°F {57.2°C}Low-Profile Thermal Detector
DT-11C	500-095983	Low-Profile Thermal Detector [Canada]
HI921	S54320-F5-A2	Thermal (Heat) Detector
OH921	S54320-F6-A2	Addressable Multi-Criteria Fire Detector
OP921	S54320-F4-A2	Photoelectric Smoke Detector
OOH941	S54320-F7-A2	Multi-Criteria Fire Detector with ASA*technology*™
OOHC941	S54320-F8-A2	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]

SIEMENS Cerberus™ PRO

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