Harnett COUNTY NORTH CAROLINA

Emergency Services Department
www.harnett.org

Fire Marshal Division
P.O. Box 370
Lillington, NC 27546
910-893-7580

Reviewed for Fire Code Compliance
Harnett COUNTY NORTH CAROLINA
Matt Starling
11/18/2025 1:14:00 PM

Application for Plan Review

Permit Type: Fire Alarm System

Date Received: _____ **Received By:** _____

Name of Project: Dunn Commerce Building 1

Physical Address of Project: 611 Spring Branch Rd Dunn NC 28334

Plans Submitted By: Glenn Gwaltney

Project Phone: (919)-922-7940

Contact Person/Address: Glenn Gwaltney

Contact Phone: (919)-922 7940 (___)-___-____

Contractor's Name/Info: Diacom Technologies
2822 Cashwell Dr. #215

Contractor's Phone: (919)-922 7940

Contact Email: Diacomfire@gmail.com

- **Plans that are submitted will be reviewed as quickly as possible with an average time of review between 7-10 working days.**

FACP

POTTER — The Symbol of Protection

AFC-100
Battery & Voltage Drop
Calculations

Project Name:	DUNN COMM BLDG 1	**Standby Hours:**	24
Installed By:		**Alarm Mins:**	5
Designed By:	PYROCADD	**Efficiency Factor:**	20%
Date:	10/30/2025	**SLC Type:**	Class B
		NAC Source Voltage:	20.4
Model #:	AFC-100	**Max Panel Current (amps):**	5
Panel ID:	FACP		
Location:	LOBBY		

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Addressable Fire Panel Part #	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
1	AFC-100	Analog Addressable FACP	0.130	0.130	0.220	0.220
			Panel Standby:	**0.130**	**Panel Alarm:**	**0.220**

	P-LINK (RS-485)		Standby		Alarm	
1	UD-2000 / UD-1000	DACT Card	0.016	0.016	0.023	0.023
	RA-6075/R	LCD Annunciator	0.020		0.025	
	RA-6500 (R/F)	Flush Mount LCD Annunciator	0.020		0.050	
	LED-16 (F)	Flush Mount LED Annunciator	0.025		0.025	
	LED-16 (F)*	LED Annunciator LED Power*	0.015		0.210	
	CA-6075	Class A Module	0.012		0.044	
	PSN-1000(E)	Power Expander	0.015		0.015	
	PAD100-SLCE-127	SLC Expander	0.060		0.060	
	NOHMI-SLCE-127**	SLC Expander	0.060		0.060	
	IDC-6	Initating Zone Expander	0.020		0.020	
	IDC-6	Initating Zone Expander Power*	0.030		0.270	
	RLY-5	Relay Expander	0.025		0.035	
	RLY-5	Relay Expander Power*	0.010		0.135	
	DRV-50	LED Driver Module	0.025		0.025	
	DRV-50	LED Driver Module LED Power*	0.010		0.215	
	FCB-1000	Fire Communications Bridge	0.025		0.025	
	FIB-1000	Fiber Interface Board	0.030		0.030	
	MC-1000	Multi-Connect Expander	0.010		0.010	
	SPG-1000	Serial Parallel Gateway	0.040		0.040	
	NCE-1000	Network Card Ethernet	0.050		0.050	
	NCF-1000	Network Card Fiber	0.095		0.095	
	PSK-1000	Programmable Soft Key	0.018		0.019	

****REQUIRED IF USING NOHMI PROTOCOL SLC DEVICES**
(Maximum current draw on P-Link limited to 1 Amp) **P-LINK Standby:** **0.016** **P-LINK Alarm:** **0.023**
***Only enter quantity if P/LINK power is being used to power devices**

	SLC Devices		Standby		Alarm	
		AFC / ARC / IPA Series - PAD100/200				
2	PAD-PO	Analog Photo Smoke	0.000300	0.000600	0.000300	0.000600
8	PAD-PHD	Analog Photo Smoke/Heat	0.000300	0.002400	0.000300	0.002400
2	PAD-HD	Analog Fixed Temp Heat	0.000300	0.000600	0.000300	0.000600
	PAD-CD	Analog Carbon Monoxide Detector	0.000300		0.000300	
	PAD-PCD	Analog Smoke/Carbon Monoxide Detector	0.000300		0.000300	
7	PAD-PHCD	Analog Smoke/Heat/Carbon Detector	0.000300	0.002100	0.000300	0.002100
	PAD100-DRTS	Duct Remote Test Switch	0.010000		0.015000	
	PAD-DUCT	Addressable Duct Detector	0.000300		0.000300	
	PAD-DUCTR*	Addressable Duct Detector w/Relay	0.000500		0.000500	
4	PAD100-PSSA/PSDA	Addressable Pull Station Single/Dual Action	0.000200	0.000800	0.000200	0.000800
	PAD100-MIM	Micro Input Module	0.000200		0.000200	
	PAD100-SIM	Single Input Module	0.000240		0.000240	
	PAD100-DIM	Dual Input Module	0.000240		0.000240	
	PAD100-RM	Relay Module	0.000240		0.000240	
	PAD100-OROI	One Relay One Input Module	0.000240		0.000240	
	PAD100-TRTI	Two Relay Two Input Module	0.000240		0.000240	
	PAD100-ZM*	Conventional Zone Module	0.000240		0.000240	
	PAD100-NAC*	Notification Appliance Circuit	0.000200		0.000200	
	PAD100-SM	Speaker Module	0.000200		0.000200	
	PAD100-IM	Isolator Module	0.000150		0.000150	
	PAD100-LED	LED Module	0.000240		0.000240	
	PAD100-LEDK	Addressable LED w/ Key Switch	0.000200		0.000200	
	PAD100-SB***	Addressable Sounder Base	0.000200		0.000200	
	PAD100-LFSB***	Addressable Low Frequency Sounder Base	0.000200		0.000200	
	PAD100-RB*	Addressable Relay Base	0.000200		0.000200	
	PAD100-IB	Addressable Isolator Base	0.000150		0.000150	

	AFC / ARC / IPA Series - PAD300			
	PAD300-PD	Analog Photo Smoke	0.000300	0.000300
	PAD300-PD-I	Analog Photo Smoke W/ Isolator	0.000300	0.000300
	PAD300-PHD	Analog Photo Smoke/Heat	0.000300	0.000300
	PAD300-PHD-I	Analog Photo Smoke/Heat/Isolater	0.000300	0.000300
	PAD300-HD	Analog Fixed Temp Heat	0.000300	0.000300
	PAD300-HD-I	Analog Fixed Temp Heat W/ Isolator	0.000300	0.000300
	PAD300-CD	Analog CO Detector	0.000300	0.000300
	PAD300-CD-I	Analog CO Detector W/Isolater	0.000300	0.000300
	PAD300-PCD-I	Analog Smoke/CO Detector	0.000300	0.000300
	PAD300-PCD	Analog Smoke/CO Detector W/Isolater	0.000300	0.000300
	PAD300-PHCD	Analog Smoke/Heat/CO Detector	0.000300	0.000300
	PAD300-PHCD-I	Analog Smoke/Heat/CO Detector W/ Isolater	0.000300	0.000300
	PAD300-DD	Addressable Duct Detector	0.000300	0.000300
	PAD300-SB***	Addressable Sounder Base	0.000200	0.000200
	PAD300-LFSB***	Addressable Low Frequency Sounder Base	0.000200	0.000200
	PAD300-RB*	Addressable Relay Base	0.000200	0.000200
	PAD300-IB	Addressable Isolator Base	0.000150	0.000150
	PFC-6000 / P Series			
	PSA	Analog Photo Smoke	0.000325	0.000325
	PSHA	Analog Photo Smoke/Heat	0.000325	0.000325
	RHA	Analog Rate of Rise Heat	0.000325	0.000325
	FHA	Analog Fixed Temp Heat	0.000325	0.000325
	DDA	Addressable Duct Detector	0.000325	0.000325
	APS-SA/APS-DA	Addressable Pull Station Single/Dual Action	0.000325	0.000325
	MCM	Mini Contact Input Module	0.000325	0.000325
	SCM-4	Single Contact Input Module	0.000325	0.001000
	DCM-4	Dual Contact Input Module	0.000325	0.001000
	TRM-4	Twin Relay Output Module	0.000325	0.001000
	CZIM-4 *	Conventional Zone Input Mod	0.000325	0.001000
	MOM-4 *	Monitored Output Module	0.000325	0.001000
	ARB *	Detector Base w/Relay	0.000325	0.000325
	ASB *	Detector Base w/Sounder	0.000325	0.000325
	SCI **	Short Circuit Isolator (Class A)	0.000325	0.002340
	AIB **	Detector Base w/Isolator (Class A)	0.000325	0.002340
	IM/IB/SCI/AIB Class B **	Current Draw from Install Manual		
		SLC Loop Alarm LED Current	0.000000	0.036000	0.036000
	* Requires Aux Power (Configure Below)		**SLC Standby:**	**0.006500**	**SLC Alarm:**	**0.042500**

** See the installation manual for special considerations when installing IM, IB, AIB, SCI devices on Class B loops.
*** Requires Aux Sounder Base Power (Configure Below)

NAC Circuits (See NAC Configuration below) Ckt	Use	Description	Standby (amps) Total	Alarm (amps) Total
1			0.00000	0.52700
2			0.00000	0.77500
		NAC Standby:	**0.00000**	**NAC Alarm:**	**1.30200**

I/O Circuits (See I/O Configuration below) Ckt	Use	Description	Standby (amps) Total	Alarm (amps) Total
1			0.00000	0.00000
2			0.00000	0.00000
		I/O Standby:	**0.00000**	**I/O Alarm:**	**0.00000**

Battery Calculation Summary		Standby (amps)		Alarm (amps)
	Panel Current:	0.13000		0.22000
	P-Link Current:	0.01600		0.02300
	SLC Device Current:	0.00650		0.04250
	NAC Circuit Current:	0.00000		1.30200
	I/O Circuit Current:	0.00000		0.00000
SLC Loop Type: Class B	**Total Standby:**	0.151500	**Total Alarm:**	1.58750
Device Addresses Used 29	**Standby Hours:**	24	**Alarm Mins:**	5
Device Addresses Available: 100	**AH Required:**	3.66	**AH Required:**	0.14
	Total Combined Standby & Alarm AmpHours Required:			3.80
	Efficiency Factor:			20%
	Required Battery AmpHours:			4.56
	Battery AmpHours Provided:			2-7AH

Note: The cabinet will house two 8 AH or 18 AH batteries. The charging circuit is rated for up to two 55 AH batteries.

POTTER

NAC Circuit Configuration & Voltage Drop *DUNN COMM BLDG 1* *10/30/2025*

NAC 1 — **MAX Circuit Current (amps): 3** — **Source Voltage Used (VDC): 20.4**
Usage: Description:

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Stranded	3.26	120	0.782	0.527	19.99	16

Qty	Lookup Type	Circuit Devices Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
1						
		User can add devices on the fly to these bottom 5 rows				
1		AV	0.000000	0.000000	0.527000	0.527000
			Total Standby:	**0.00000**	**Total Alarm:**	**0.52700**

NAC 2 — **MAX Circuit Current (amps): 3** — **Source Voltage Used (VDC): 20.4**
Usage: Description:

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#12 Solid	2.01		0.000	0.775	20.40	16

Qty	Lookup Type	Circuit Devices Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
		User can add devices on the fly to these bottom 5 rows				
1		AV			0.775000	0.775000
			Total Standby:	**0.00000**	**Total Alarm:**	**0.77500**

I/O Circuit Configuration & Voltage Drop *DUNN COMM BLDG 1* *10/30/2025*

I/O 1 — **MAX Circuit Current (amps): 1** — **Source Voltage Used (VDC): 20.4**
Usage: Description:

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Qty	Lookup Type	Circuit Devices Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
		User can add devices on the fly to these bottom rows (No lookup function)				
			Total Standby:	**0.00000**	**Total Alarm:**	**0.00000**

I/O 2 — **MAX Circuit Current (amps): 1** — **Source Voltage Used (VDC): 20.4**
Usage: Description:

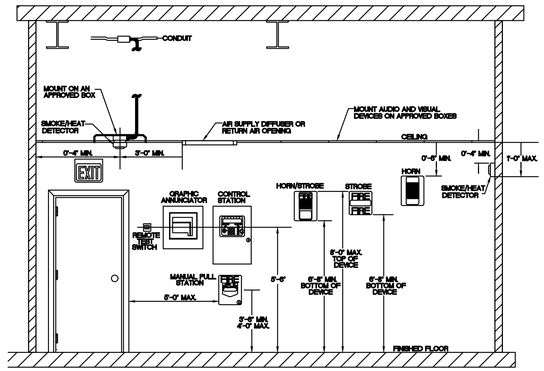
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Qty	Lookup Type	Circuit Devices Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
		User can add devices on the fly to these bottom rows (No lookup function)				
			Total Standby:	**0.00000**	**Total Alarm:**	**0.00000**

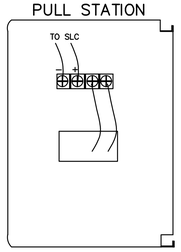
FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX

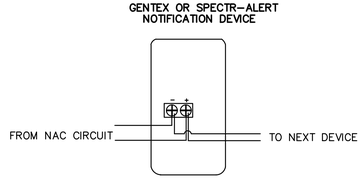
SYSTEM OUTPUTS

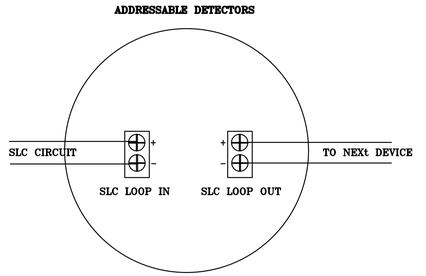
			FACP ANNUNCIATION										NOTIFICATION										RECURRED FIRE SAFETY CONTROL										
	SYSTEM INPUTS		ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTUATE ZONE OR DEVICE ADDRESS ALARM INDICATOR	ACTUATE GENERAL EVACUATION SIGNAL	DISPLAY CHANGE OF STATUS	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	RECALL ELEVATOR TO DESIGNATED FLOOR	RECALL ELEVATOR TO ALTERNATE RECALL FLOOR	ACTUATE WARNING TO BE ELEVATOR CABS	DELAYED REMOVAL OF POWER FROM ELEVATOR	- - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y								
1	FIRE ALARM SYSTEM AC POWER FAILURE					●	●						●															1					
2	FIRE ALARM SYSTEM LOW BATTERY					●	●						●															2					
3	OPEN CIRCUIT					●	●						●															3					
4	GROUND FAULT					●	●						●															4					
5	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●						●															5					
6	BUILDING MANUAL PULL STATIONS	●	●					●	●	●	●																	6					
7	DETECTORS	●	●					●	●	●	●																	7					
8																												8					
9																												9					
10																												10					
11																												11					
12																												12					
13																												13					
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	V	W							



FIRE ALARM DEVICE MOUNTING DETAIL







PROJECT NOTES

FIRE ALARM SYSTEM IS BEING INSTALLED PER CUSTOMER REQUEST. DESIGN & INSTALLATION SHALL BE PER NC FIRE CODE AND NFPA72.

Pyrocadd
THE PYROCADD COMPANY
A FIRE SYSTEM DESIGN FIRM
A NICET CERTIFIED COMPANY
PO BOX 1833
SHALLOTTE, NC 28470
910-575-3131
dave@pyrocadd.com
WWW.PYROCADD.COM

whcPE
WILLIAM H. CLARK, JR., PE
4732 PORCHAVEN LN, APEX, NC 27539
PHONE: 919-740-3626 WHCLARK2001@GMAIL.COM

NORTH CAROLINA PROFESSIONAL SEAL 10985 ENGINEER WILLIAM H. CLARK, JR.

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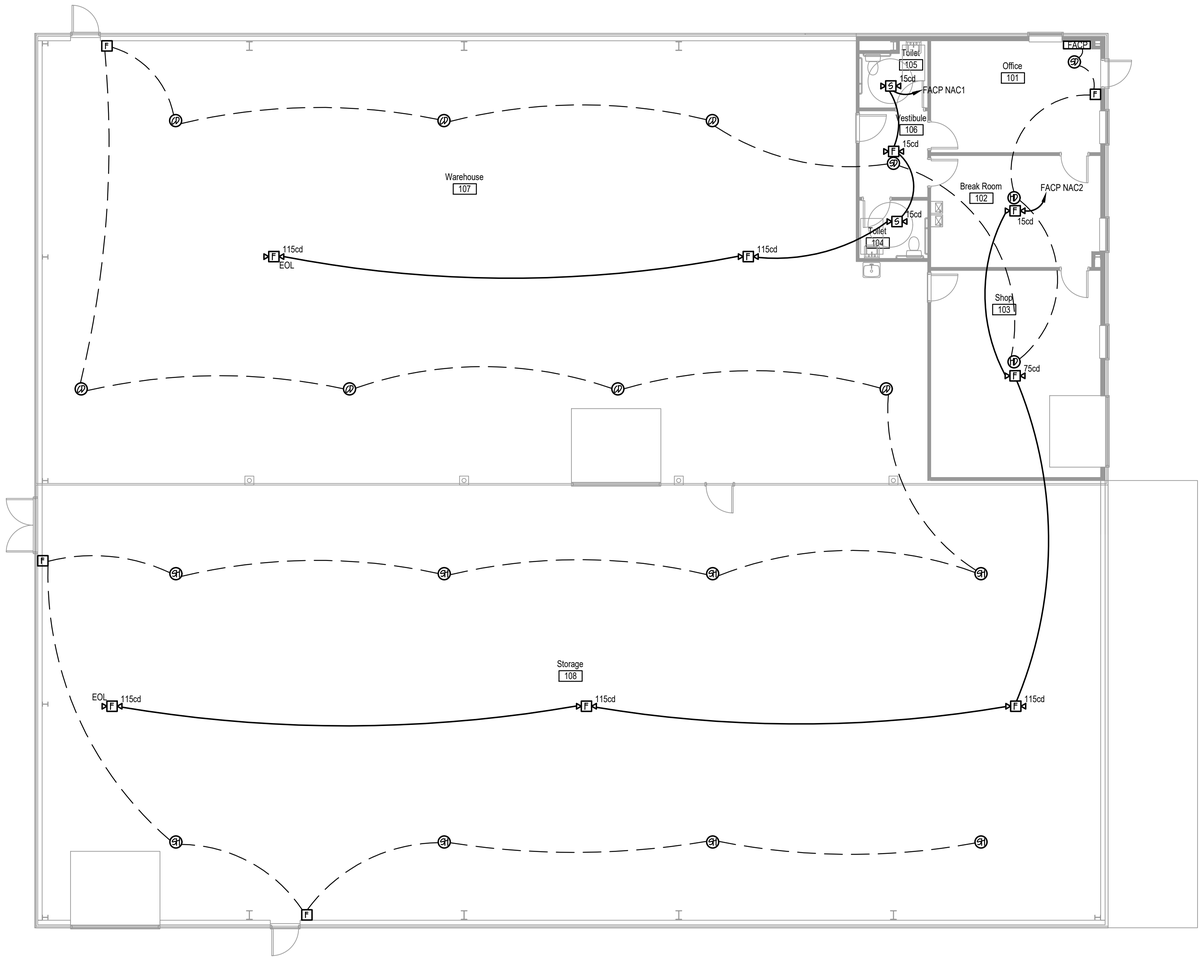
William H. Clark, Jr., PE

NEW FIRE ALARM SYSTEM FOR:
DUNN COMMERCE PARK-BUILDING 1
611 SPRING BRANCH ROAD
DUNN, NC

PROJECT NO:	25-311-02
DATE:	10/30/25
CAD DWG FILE:	FA1.dwg
DRWN BY: DWR	CHKD BY: WHC

FIRE ALARM PLAN

FA1



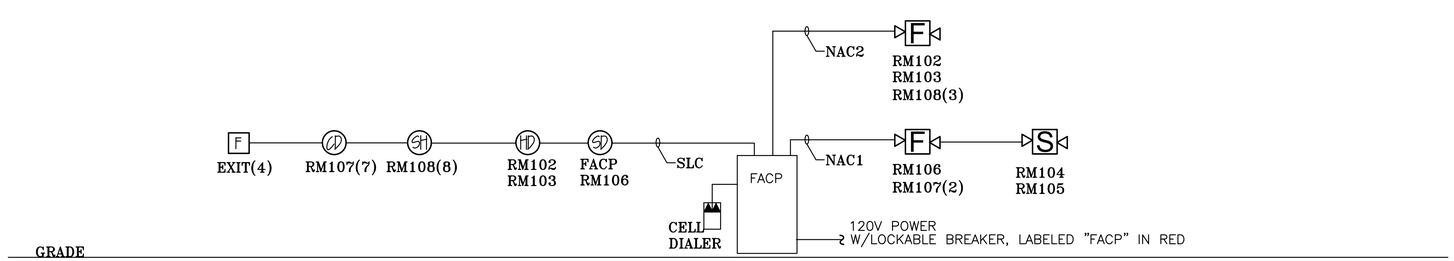
1 FA2 **FIRE ALARM FLOOR PLAN**
1/8"=1'0"

LEGEND

FACP	FIRE ALARM CONTROL PANEL
F	PULL STATION
SD	SMOKE DETECTOR
CD	COMBINATION DETECTOR (SMOKE/HEAT/CO)
SH	SMOKE/HEAT DETECTOR
HD	HEAT DETECTOR
F	HORN/STROBE CEILING MOUNTED
S	STROBE CEILING MOUNTED
cd	CANDELA RATING
EOL	END OF LINE RESISTOR

WIRE LEGEND

NAC	NOTIFICATION APPLIANCE CIRCUIT	1 – #14/2 FPL CABLE
SLC	ADDRESSABLE SLC CIRCUIT	1 – #18/2 FPL CABLE



2 FA2 **RISER DIAGRAM**
NTS

Pyrocadd
THE PYROCADD COMPANY
A FIRE SYSTEM DESIGN FIRM
A NICET CERTIFIED COMPANY
PO BOX 1833
SHALLOTTE, NC 28470
910-575-3131
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NEW FIRE ALARM SYSTEM FOR:
DUNN COMMERCE PARK-BUILDING 1
611 SPRING BRANCH ROAD
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PROJECT NO:	25-311-02
DATE:	10/30/25
CAD DWG FILE:	FA1.dwg
DRWN BY: DWR	CHKD BY: WHC

FIRE ALARM PLAN

FA2

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 11/13/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Erika Sutton, CISR Elite	
Evans and Associates	PHONE (A/C, No, Ext): (252) 523-3137	FAX (A/C, No): (252) 523-2146
2904 North Herritage Street	E-MAIL ADDRESS: esutton@evansandassoc.net	
PO Box 1437	INSURER(S) AFFORDING COVERAGE	NAIC #
Kinston NC 28503	INSURER A : Scottsdale Insurance Company	41297
INSURED	INSURER B : Wesco Insurance Co	25011
Glenn Gwaltney, DBA: Diacom Technologies	INSURER C :	
2822 Cashwell Dr. #215	INSURER D :	
	INSURER E :	
Goldsboro NC 27534	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** CL259910073 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC [ ] OTHER:			CPS8119166	12/22/2024	12/22/2025	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 100,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
	AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ $ $ $
	[ ] UMBRELLA LIAB [ ] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $						EACH OCCURRENCE AGGREGATE	$ $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N: Y If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		WWC3804369	09/28/2025	09/28/2026	[X] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Owner, Glenn Gwaltney, is excluded from Workers Comp.

CERTIFICATE HOLDER

City of Dunn

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Erika J. Sutton

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PAD200-PCHD

Photoelectric Smoke / Heat / Carbon Monoxide Detector

Features

- Photoelectric Smoke Detection compliant with UL 268 7th Edition
- Carbon Monoxide (CO) detection compliant with UL 2075
- Heat Detection compliant with UL 268 and UL 521 7th Edition
- Walk Test mode allows for fast easy validation of CO sensor operation
- Low profile, less than 2 inches with the base
- Wide selectable sensitivity range of 1.0 to 3.5%/foot
- Temperature range of 32° F to 115° F
- Selectable Rate of Rise and/or fixed heat detector
- Fixed temperature range of 135° F to 185° F
- Sensor communicates sensitivity to control panel
- UL listed smoke calibration and sensitivity
- Optional locking tab to prevent unwanted removal
- Simple DIP switch address setting, no programming tool required
- LED alarm indicator
- Product includes a 5 year warranty
- UUKL Listed for Smoke Control

Description

The PAD200-PCHD is a listed Analog Addressable photoelectric smoke sensor, rate of rise and/or fixed temperature heat sensor and carbon monoxide (CO) sensor compatible with fire alarm control panels that utilize the Potter Addressable Device (PAD) protocol.

The CO sensing portion utilizes a proven electrochemical sensor for accurate detection of CO gas for life safety applications.

The photoelectric sensor complies with UL 268 7th edition enhanced smoke sensitivity tests. It has a wide sensitivity range of 1.0 to 3.5% per foot, and features drift compensation with built in dirty detector warning.

The heat sensing portion utilizes a proven thermistor for accurate and reliable heat detection. The sensor and the control panel communicate over a proven and robust digital communication path and the system analyzes the information at the particular device. The total polling speed is less than five (5) seconds, well under the UL requirements.

The sensor is compatible with any of the PAD sensor bases and simply twists on. The PAD200-PCHD is addressed using DIP switches in the rear of the sensor and can be easily programmed in the field without special tools.

Setting the Address

Each addressable device on the SLC loop must have a unique address from 1 to 127 to function properly. The address is set using DIP switches.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to SLC or device. Verify the following:

1. Power to the device is removed
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Technical Specifications

Operating Voltage	24 VDC
Detector Current Draw	300 µA
Alarm indicator	1 LED
Alarm set-point range	1.1-3.5 %/ft. (3.6-11%/m) / 135° to 174°F (57° to 79° C)
Rate of Rise Detection (Selectable Option)	15°F/min. (8.3°C/min.)
Installation temperature range	32° to 115° F / 0° to 46° C
Operating relative humidity range	0% to 93% (non-condensing)
Start-up time	1 second
Maximum number of addresses per loop	127
Maximum number of lighted indicators in alarm per loop.	30
Color	Eggshell White
Weight (without base)	118.5 g (4.2 oz)
Dimensions (without base)	Height: 1.94 in (49 mm) Diameter: 3.93 in. (100 mm)

Air Velocity Ratings

The PAD200-PCHD has an Open Area of Protection air velocity rating of 0 to 300 feet per minute.

The system has a maximum of 30 LEDs that can be turned on simultaneously. If the system already has 30 LEDs on, the PAD200-PCHD will operate even though the LED may not illuminate.

Operation

The PAD200-PCHD is an analog addressable sensor that uses one address on the Signaling Line Circuit (SLC) of a compatible fire alarm control panel. The unit communicates with the control panel as it is polled. The LEDs flash every time the unit is polled and they will flash at a fast rate if the unit is in an active status. The polling LED can be turned off if desired for less conspicuous operation.

The PAD200-PCHD with the PAD100-4DB or PAD100-6DB has a low profile of less than two (2) inches to blend into the surrounding environment. The sensor includes an insect screen to prevent foreign objects from reaching the chamber and the can be cleaned to restore operation of a dirty detector.

Sensor Sensitivity

The PAD200-PCHD and the compatible control panel work in tandem to keep the sensitivity consistent. As the sensor is installed over time, the sensor compensates for the dirt in the unit until it is out of range. At that time, the panel will indicate a dirty sensor. The sensor will then have to be cleaned or replaced.

The PAD200-PCHD can be programmed to provide a maintenance alert prior to reaching the dirty sensor level which will allow for intervention prior to the sensor going into trouble. This allows for sensor replacement or cleaning prior to a nuisance trouble occurs.

NOTE: As required by NFPA, do not install the sensors until all construction is complete and the work area has been thoroughly cleaned. If the sensors have been installed in a construction environment, they should be cleaned or replaced before the system is placed into service.

Spacing

The PAD200-PCHD is UL listed with a recommended maximum spacing of 30 feet. Refer to NFPA 72 for specific information regarding detector spacing, placement and special applications.

Compatible Bases

All bases will mount on a single gang, double gang, octagon, 4” square or mud ring electrical box.

Device	Description	Stock No.
PAD100-4DB	4” Standard Base	3992731
PAD100-6DB	6” Standard Base	3992732
PAD100-IB	6” base with an isolator module included.	3992730
PAD100-RB	6” base with one Form-C relay contact. 2A @ 30VDC, 0.5A @ 125VAC	3992728
PAD100-SB	6" base with sounder module included. Sound pattern is provided from external source.	3992729
PAD100-SPKB	6” base with speaker included	3992762

Ordering Information

Model	Description	Stock No.
PAD200-PCHD	Photoelectric Smoke/Heat/Carbon-Monoxide Detector	3992773

AFC-100

Fire Alarm Control Panel

Features

- 100 addresses available on this analog addressable system
- Additional system capacity achieved via multi-point SLC modules
- 99 software zones
- NFPA 72 Compliant Smoke Sensitivity Test Built-In
- System Operates as Class A or Class B for SLC, P-Link and NACs
- 5 Amp Power Supply, Expandable to 310 amps
- 2 NACS, Regulated, Rated at 3 Amps each, expandable to 188
- 2 Input/Output (I/O) Circuits for system flexibility rated at 1 Amp each
- Strobe Synchronization and System Wide Sync for Gentex®, AMSECO®, Cooper Wheelock® and System Sensor® strobes
- Dedicated Alarm, Supervisory and Trouble Relays
- 4,000 Event History Buffer
- Optional two line DACT with UD-2000 that can report General, Zone or Point Information
- Built in IP Communicator
- Ethernet Port for Programming and Network Connectivity
- E-Mail System Status, Reports and Event Information
- Product includes 5 year warranty

ASSEMBLED IN THE USA

FM APPROVED

NYC Fire Dept. Certificate of Approval 6256

7165-0328:0509

UL LISTED S735

Description

The AFC-100 is an analog/addressable fire alarm system with a total system capacity of 100 addresses. Additional capacity on the system is achieved using multi-point SLC modules. The control panel utilizes the exclusive Potter protocol that includes a complete line of sensors and modules. Each SLC may be comprised of any combination of smoke sensor, heat detectors or modules and allows for a total of 50 ohms of impedance and may use any wire compliant with the National Electrical Code (NEC).

The AFC-100 has a 5 Amp power supply with two Notification Appliance Circuits (NACs) and two Input/Output (I/O) circuits. The NACs are rated at 3 Amps each and the I/Os are rated at 1 Amp each. Each output is regulated and power limited. In addition, each output is uniquely programmable and may be configured for steady signal, strobe synchronization, constant power, door holder power, or releasing. The strobe synchronization includes Gentex, AMSECO, System Sensor and Cooper/Wheelock and with the exclusive Quadrasync each output may have a unique brand and all strobes will flash together.

The NACs may be expanded using the PSN-1000 series intelligent power supplies. Each PSN-1000 adds another 10 Amps of power, 2 additional input circuits and the AFC-100 will support up to 31 power supplies. The system will synchronize the strobes system wide. In addition, the PSN-1000E has space to allow the installation of up to six loop expansion cards. The cards mount on a stacker bracket that allows access to all SLC circuit connections.

Technical Specifications

Dimensions	16”W x 17”H x 3 ⅞”D
AC Mains	3.0 Amps @ 120 VAC 50/60 HZ 2.0 Amps @ 240 VAC 50/60 HZ
Enclosure	16 gauge cold rolled steel with removable locked door with Lexan viewing window
Battery	Standby Current-130 mA Alarm Current-200 mA • 5 Amps power for NACs, I/O, and P-Link • 3 Amps per NAC, regulated • 1 Amp per I/O circuit, regulated • Battery Charger range 8-55 Ah • Battery Charger voltage 27.3 VDC • P-Link maximum current of 1 Amp
Temperature and Humidity Range	32° to 120° (0°C to 49°C) with a maximum humidity of 93% non-condensing.
Standards	• NFPA, 13, 15, 16, 17, 17A, 70, 72, and 750 • ANSI/UL 864 - Local (L), Remote Station (RS), Central Station (CS), Propriety (PPU), Auxiliary (AUX). Type of Service: Automatic (A), Manual (M),Water flow (WF) Sprinkler Supervisory (SS) Type of Signaling: Digital Alarm Communicator (DAC), March Time (March), Non Coded (NC), Reverse Polarity (Rev Pol), Other Technologies (OT) • IBC (International Building Code)

SLC Loop Accessories

The control panel may be connected with up to 100 addressable devices or modules in any combination. The SLC is not restricted by any special wire requirements and may be wired with any wire that complies with the NEC.

SLC Loop Devices

Device	Description
PAD Series-PD	Analog Photoelectric Smoke Detector is a smoke detector with a listed obscuration of 1.1 to 3.5%/foot. UL 268 7th Edition.
PAD Series-PHD	Combination Analog Photoelectric Smoke/Heat Detector – a smoke detector with a listed obscuration of 1.1 to 3.5 %/foot obscuration and a fixed temperature range of 135° to 185° F heat detector. Smoke detection compliant with UL 268 7th Edition.
PAD Series-PCD	Combination Photoelectric Smoke/Carbon Monoxide Detector. Smoke detection compliant with UL 268 7th Edition. Carbon Monoxide detection compliant with UL 2075.
PAD200-PCHD	Combination Photoelectric Smoke/Heat/Carbon Monoxide Detector. Smoke detection compliant with UL 268 7th Edition. Heat detection with a fixed temperature range of 135° to 185° F and UL 521 7th Edition compliant. Carbon Monoxide detection compliant with UL 2075.
PAD Series-HD	Analog Fixed Temperature (135° - 185°F) or Rate-of-Rise Heat Detector (software selectable).
PAD Series-DUCTR	Addressable Duct Smoke Detector with Form C Relay rate at 10Amps @ 250/120VAC or 8 Amps at 30VDC.
PAD Series-DUCT	Addressable Duct Smoke Detector.
PAD100-6DB	6” round base that is mountable to an electrical box and wired for connection to the PAD100/200 devices.
PAD100-4DB	4” round base that may be mounted to an electrical box and wired for connection to the PAD100/200 devices.
PAD100-IB	Isolator base that interrupts a short in a SLC and prevents the short from affecting protected devices on the loop and used for connection to the PAD100/200 devices.
PAD100-RB	Addressable Relay Base that contains one relay controlled by the SLC. Relay at rated at 2 amps at 30 VDC or 0.5A at 125VAC. For PAD100/200 devices only.
PAD100-SB	Addressable Sounder Base that contains an addressable sounder module which allows for configuration of local, group, and/or all call. For PAD100/200 devices only.
PAD Series-CD	Addressable CO gas detector.
PAD200-DD	Addressable photoelectric smoke detector for use in DUCT/DUCTR enclosure.
PAD300-DD	Addressable photoelectric smoke detector for use in DUCT/DUCTR enclosure or pendant mount applications.
PAD100-LFSB	Addressable Low Frequency Sounder Base that contains an addressable sounder module which allows for configuration of local, group, and/or all call. The LFSB complies with the Low Frequency Signal Requirements (520 Hz) and used for connection to the PAD100/200 devices.
PAD100-SPKB	Speaker base is a wall or ceiling mount speaker capable of 25 or 70.7 VRMS and is field selectable from 1/8W to 4W and used for connection with the PAD100/200 devices.
PAD300-6DB	6” round base which is mountable to an electrical box and wired for connection to the PAD300 devices.
PAD300-4DB	4” round base which is mountable to an electrical box and wired for connection to the to the PAD300 devices.
PAD300-IB	Isolator base that interrupts a short in a SLC and prevents the short from affecting protected devices on the loop. Used for connection to the PAD300 devices.
PAD300-RB	Addressable Relay Base that contains one relay controlled by the SLC. The Relay is rated 2 amps at 30 VDC or 0.5A at 125VAC and used for connection to the PAD300 devices
PAD300-SB	Addressable Sounder Base that contains an addressable sounder module which allows for configuration of local, group, and/or all call; and used for connection to the PAD300 devices.
PAD300-LFSB	Addressable Low Frequency Sounder Base that contains an addressable sounder module which allows for configuration of local, group, and/or all call. The LFSB complies with the Low Frequency Signal Requirements (520 Hz) and used for a connection to the PAD300 devices.

Modules

Device	Description
PAD100-MIM	Micro Input Module provides a small foot print contact module for mounting inside an enclosure.
PAD100-PSSA	Single Action Addressable Pull Station.
PAD100-PSDA	Dual Action Addressable Pull Station.
PAD100-SIM	Single Input Module is a standard contact module with an LED that mounts into a 4” square electrical box.
PAD100-DIM	Dual Input Module is a device that can monitor two distinct inputs with a single device or in a Class A mode.
PAD100-TRTI	Two Relay Two Input module provides two form C relays that are individually controlled by the control panel. Each relay is rated for 2 amps at 30VDC or 0.5 amps at 125VAC. Also provides two contact inputs.
PAD100-NAC	Notification Appliance Circuit module is an addressable remote appliance circuit controlled by the panel.
PAD100-ZM	Zone Module is used to connect conventional 2-wire smoke detectors to the system.
PAD100-IM	Isolater Module interrupts a short on the SLC and prevents the short from affecting protected devices on the loop.
PAD100-RM	Relay Module that provides one form C relay controlled by the control panel. Relay is rated for 2 amps at 30VDC or 0.5 amps at 125VAC.
PAD100-LED	Module provides a single addressable LED that is controlled by the control panel.
PAD100-SM	Speaker Module provides switching for two audio channels.
PAD100-LEDK	Addressable LED and key switch that mounts in a single gang box.
PAD100-DRTS	DUCTR Remote Test Switch that mounts in a single gang box and optionally supervised. For use with the PAD100-DUCTR only.
PAD100-OROI	One Relay One Input Module provides one form C relay and one input. The relay is rated at 2 amps at 30VDC or 0.5 amps at 125VAC.

SLC Features

The Potter protocol is a digital protocol with a proven design for reliability and noise immunity. The system does not require special cable or conductors for connection of the Signaling Line Circuit as long as the cable is compliant with NFPA 70 and NFPA 72. The system allows for Class A or Class B installations as well as "T-Taps", with a max wiring distance of 10,000 Ft.

Sensor Features

The sensors through the fire alarm control panel provide a real time status as to the condition of the system. The smoke detector sensitivity, heat detector temperature level and drift compensation are all programmable options. The system also allows for a day/night mode where the panel automatically adjusts the sensitivity depending on the time of day. To assist in the reduction of false alarms, the smoke detectors also have a maintenance warning that sends a trouble signal when a detector is dirty to the point that it can no longer maintain the programmed sensitivity.

User Interface

The fire alarm control panel has a 4 x 20 LCD display to provide information to the system status. The keypad has navigation keys to allow manipulation of the Menu on board the panel. The panel is shipped standard with the following LEDs:

- AC Power - Green
- Alarm - Red
- Earth Fault - Amber
- Supervisory - Amber
- Silenced - Amber
- Trouble - Amber
- Pre-Release - Amber
- Release - Red

The common buttons include a Silence, Reset, Acknowledge, and Drill. All of the buttons are accessible once the locked door is opened.

P-Link

The AFC-100 has a proprietary communication protocol that communicates through a RS-485 connection to field devices. Up to 32 devices may be connected to a single P-Link connection. The P-Link includes the communication terminals and regulated 24 VDC connection for the field devices. The field devices may be any of the following:

SLCE-127 -Nohmi addressable loop expansion module for retrofit applications.

RA-6500R(F) – 4 x 40 LCD annunciator with a key pad in a locked metal enclosure. Flush mount version available.

LED-16(F) – 16 LED annunciator with common indicators in a locked metal enclosure. Flush mount version available.

PSN-1000(E) – 10 amp, remote intelligent power supply with 6 NACs, 2 Inputs and a P-Link repeater. This panel is listed in conjunction with the AFC-100 as releasing circuits.

CA-6075 – Class A convertor that converts the SLC, NACs and P-Link connection

UD-2000 – UL listed, Dual line telephone alarm communicator

DRV-50 – LED driver expander, used to connect up to 50 LEDs in a graphic display

FCB-1000 – Fire communication bridge, provides remote mounting of the Ethernet connection

FIB-1000 – Fiber interface module, used to extend P-Link to multi-mode fiber (2 required)

RLY-5 – Relay module, provides 5 form C relay contacts rated at 3.0 amps 24VDC/125AC

SPG-1000 – Serial parallel gateway, allows for the connection to a serial or parallel printer

The **FIB-1000**, **FCB-1000** and the **SPG-1000** may be installed in the stacker bracket or ordered with the optional rack mount enclosure.

MC-1000 Multi-Connect allows up to sixty-three AFC series panels to share a single reporting technology.

IDC-6 – Initiating device circuit provides 6 programmable inputs

AE-2 – Two card expansion cabinet

AE-8 – Eight card expansion cabinet

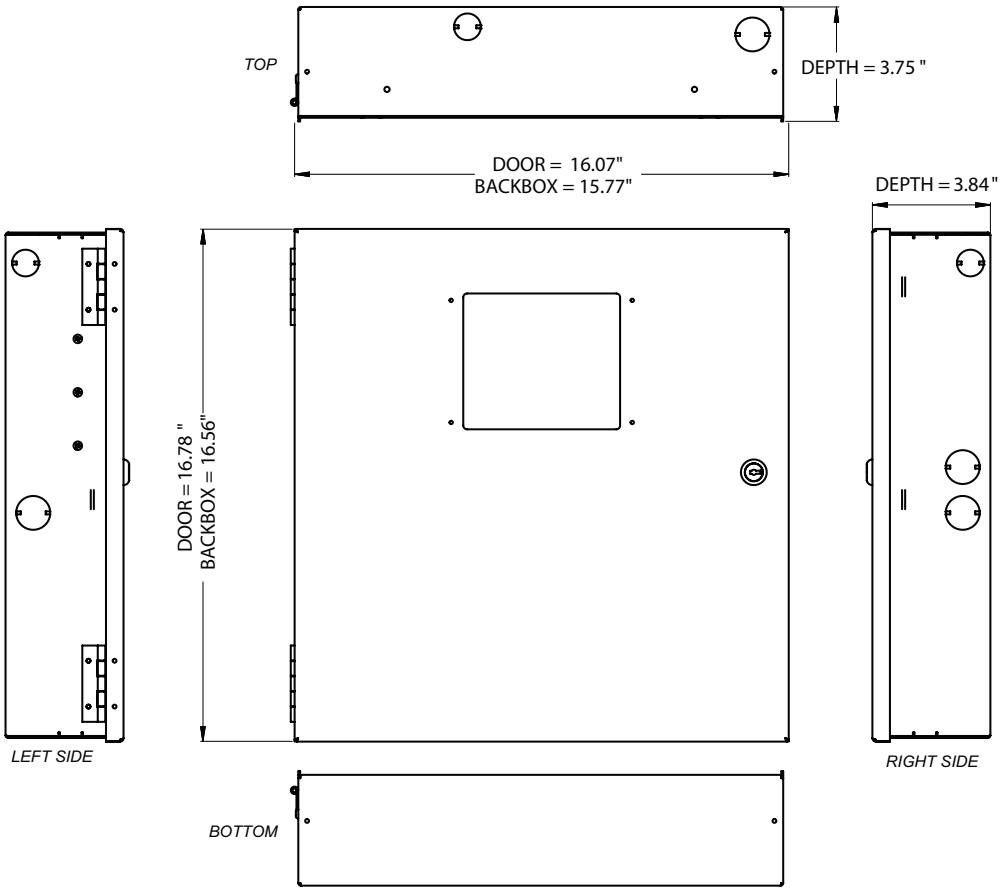
AE-14 – Fourteen card expansion cabinet

Ethernet/I.P. Connection

The AFC-100 is shipped standard with an Ethernet connection. This connection is the programming port and may be connected to a building Wide Area Network (WAN) or Local Area Network (LAN). Once connected to the Internet, the panel may be selectively programmed to e-mail alarm conditions, trouble conditions, supervisory conditions, test, Event History and detector status. An e-mail may be sent to the panel and the panel will e-mail the event history, detector status, configuration file or server status to an authorized E-mail account. In addition, reminders may be set to send an e-mail for service, testing or other conditions.

In addition, the Ethernet connection is UL listed as an IP communicator. The IP communicator is listed to report to the UL listed Sur-Gard III IP receiver. The IP communicator replaces the traditional less reliable alarm communicator transmitter that utilized telephone lines. The IP communicator is an active method of connection and communication to the monitoring station.

Dimensions



Ordering Information

Model	Description	Stock No.
AFC-100	Fire Alarm Control Panel	3992753
	Replacement Board AFC-100	3992757

Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

System Sensor L-Series audible visible notification products are rich with features guaranteed to cut installation times and maximize profits with lower current draw and modern aesthetics.

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring feature checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert and SpectrAlert Advance devices
- Compatible with MDL3 sync module
- Listed for ceiling mounting only

The System Sensor L-Series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, wall and ceiling mounting options, System Sensor L-Series can meet virtually any application requirement.

The entire L-Series product line of ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature a plug-in design with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation, the L-Series utilizes a universal mounting plate so installers can mount them to a wide array of back boxes. With an onboard shorting spring, installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.

Agency Listings

SIGNALING UL LISTED
S5512
S4011

FM APPROVED
FM approved except for ALERT models
3057383

7125-1653:0504
7135-1653:0503

L-Series Specifications

Architect/Engineer Specifications

General

L-Series ceiling-mount strobes and horn strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 17⁄8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Ceiling strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, and 177.

Strobe

The strobe shall be a System Sensor L-Series Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn Strobe Combination

The horn strobe shall be a System Sensor L-Series Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize L-Series strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4 11⁄16 × 4 11⁄16 × 2 1⁄8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 VDC or regulated 24 DC/FWR[1]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range (MDL3)	8.5 to 17.5V (12 V nominal) or 16.5 to 33 V (24V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Ceiling-Mount Dimensions (including lens)	6.8" diameter × 2.5" high (173 mm diameter × 64 mm high)
Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBBCRL, SBBCWL)	6.9" diameter x 3.4" high (175 mm diameter x 86 mm high)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 30 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

		8–17.5 Volts	16–33 Volts	
	Candela	DC	DC	FWR
Candela Range	15	87	41	60
	30	153	63	86
	75	N/A	111	142
	95	N/A	134	164
	115	N/A	158	191
	150	N/A	189	228
	177	N/A	226	264

UL Max. Horn Current Draw (mA RMS)

		8–17.5 Volts	16–33 Volts	
Sound Pattern	dB	DC	DC	FWR
Temporal	High	39	44	54
Temporal	Low	28	32	54
Non-Temporal	High	43	47	54
Non-Temporal	Low	29	32	54
3.1 KHz Temporal	High	39	41	54
3.1 KHz Temporal	Low	29	32	54
3.1 KHz Non-Temporal	High	42	43	54
3.1 KHz Non-Temporal	Low	28	29	54
Coded	High	43	47	54
3.1 KHz Coded	High	42	43	54

UL Max. Current Draw (mA RMS), Ceiling Horn Strobe, Candela Range (15–177 cd)

	8–17.5 Volts		16–33 Volts						
DC Input	15cd	30cd	15cd	30cd	75cd	95cd	115cd	150cd	177cd
Temporal High	103	167	71	90	143	165	187	217	254
Temporal Low	96	165	54	71	137	161	185	211	249
Non-Temporal High	106	173	71	90	141	165	187	230	273
Non-Temportal Low	95	166	54	71	124	161	170	216	258
3.1K Temporal High	111	164	69	94	147	163	184	229	257
3.1K Temporal Low	103	163	54	88	143	155	185	212	252
3.1K Non-Temporal High	111	172	69	94	144	164	202	229	271
3.1K Non-Temporal Low	103	169	54	88	131	155	187	217	259

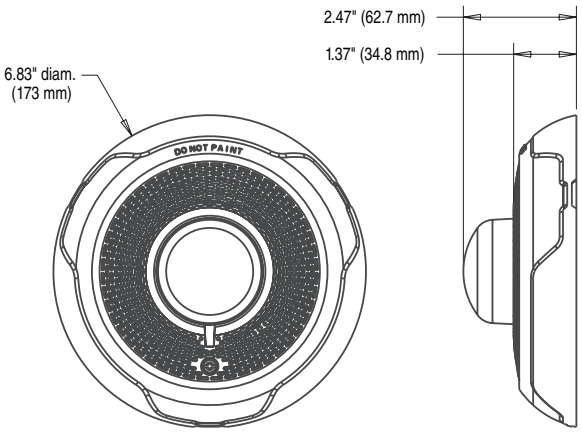
	16–33 Volts						
FWR Input	15cd	30cd	75cd	95cd	115cd	150cd	177cd
Temporal High	107	135	179	198	223	254	286
Temporal Low	78	101	151	172	199	229	262
Non-Temporal High	107	135	179	198	223	254	286
Non-Temportal Low	78	101	151	172	199	229	262
3.1K Temporal High	108	135	179	200	225	255	289
3.1K Temporal Low	79	101	150	171	196	229	260
3.1K Non-Temporal High	108	135	179	200	225	255	289
3.1K Non-Temporal Low	79	101	150	171	196	229	260

Horn Strobe Tones and Sound Output Data

Horn Strobe Output (dBA)

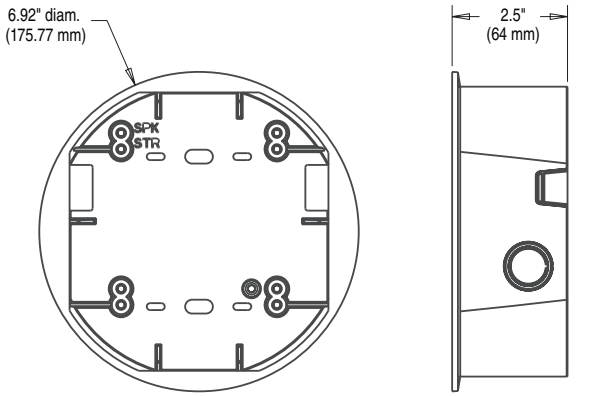
			8–17.5 Volts	16–33 Volts	
Switch Position	Sound Pattern	dB	DC	DC	FWR
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7	3.1 KHz Non-Temporal	High	84	89	89
8	3.1 KHz Non-Temporal	Low	77	83	83

L-Series Dimensions



A0545-00

Ceiling-Mount Horn Strobes



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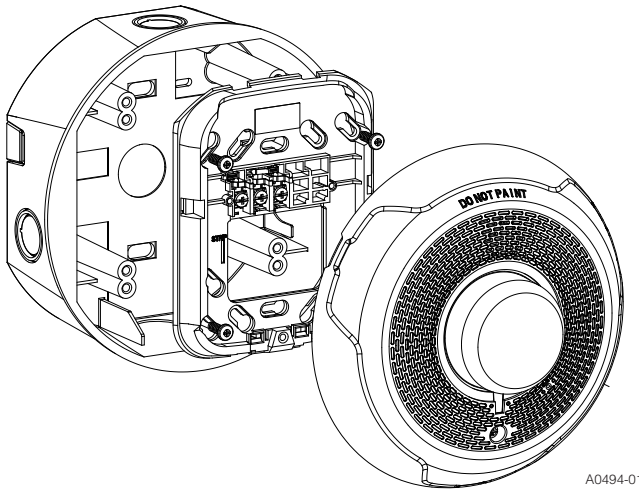
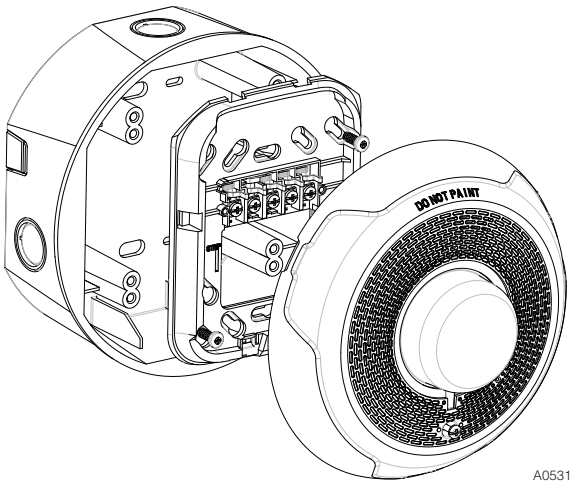
Ceiling Surface Mount Back Box



A0494-01

2-Wire Ceiling Mount Horn Strobes with Ceiling Surface Mount Back Box



A0531-01

4-Wire Ceiling Mount Horn Strobes with Ceiling Surface Mount Back Box

L-Series Ordering Information

Model	Description
Ceiling Horn Strobes	
PC2RL	2-Wire, Horn Strobe, Red
PC2WL	2-Wire, Horn Strobe, White
PC4RL	4-Wire, Horn Strobe, Red
PC4WL	4-Wire, Horn Strobe, White

Model	Description
Ceiling Strobes	
SCRL	Strobe, Red
SCWL	Strobe, White
SCWL-CLR-ALERT	Strobe, White, ALERT
Accessories	
TRC-2	Universal Ceiling Trim Ring Red
TRC-2W	Universal Ceiling Trim Ring White
SBBCRL	Ceiling Surface Mount Back Box, Red
SBBCWL	Ceiling Surface Mount Back Box, White

For a ceiling-listed horn-only device, see AVDS865 “Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications”.

SYSTEM SENSOR®

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AVDS868-02 • 12/01/2017

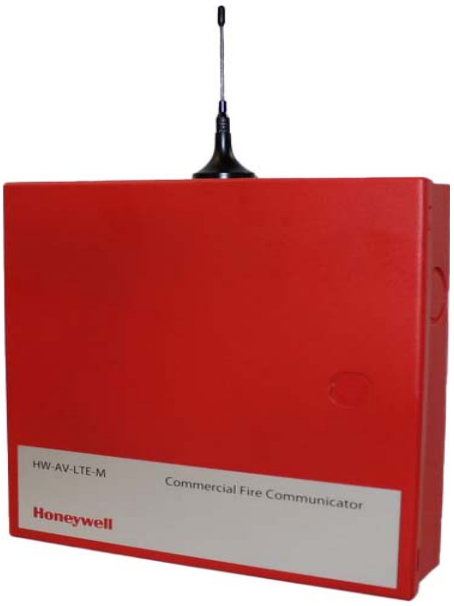
HW-AV-LTE-M CLSS PATHWAY

Connected Life Safety Services (CLSS) Dual-Path LTE Communicator with Dialer Capture Interface

The Honeywell® CLSS Pathway is a differentiated communications platform with dual SIM support for AT&T® and Verizon® and integrated features powered by the CLSS Cloud.

The CLSS Pathway combines dialer capture functionality with the powerful capabilities of Honeywell's CLSS Cloud. It represents the latest alarm communications technology for the fire industry. CLSS Pathway, an UL864 listed communicator allows data transfer from alarm systems at remote sites to any Central Monitoring Station and CLSS Cloud using LTE CAT-M1 network and LAN.

This device provides a single site-to-cloud path ensuring all CLSS Cloud services use the same audited and monitored method to access the on-premise life safety system.



Metal enclosure (HW-AV-ENC) for housing CLSS Pathway (HW-AV-LTE-M)

HONEYWELL CONNECTED LIFE SAFETY SERVICES (CLSS)

Honeywell CLSS is an innovative, all-in-one cloud platform that enables systems integrators and facilities managers to deliver an enhanced fire safety service, while maximizing the performance efficiencies offered by Honeywell's trusted detection and alarm systems. The CLSS platform enables users to:

- Transmit Fire Alarm Control Panel events to Central Monitoring Station
- Get a "bird's eye" view of all accounts
- Obtain real-time information on event generation, enabling diagnosis before dispatch
- Conduct tests and inspections using a mobile app (available in select markets)
- Provide end users with multi-site asset information and event alerts
- Support contextual information for First Responders (available in select markets)

CLSS Pathway (HW-AV-LTE-M)

DUAL AT&T AND VERIZON SUPPORT

Equipped with dual SIM cards, the CLSS Pathway supports both AT&T and Verizon networks. When first powered on, the communicator connects through the primary cellular network (Verizon). If primary cellular pathway is not available, the device connects through the secondary cellular network (AT&T). Supports option to change the default primary cellular network from Verizon to AT&T using CLSS Mobile App or CLSS Site Manager.

SIMPLIFIED INSTALLATION

The CLSS Pathway is commissioned via the CLSS mobile app and CLSS Site Manager interface, which also allow for additional remote visibility.

Connection and mounting is simplified using the enclosure kit. The CLSS Pathway is compatible with any fire alarm dialer using Contact ID, SIA, or 4x2 format and automatically recognizes the format when powered up. Any number can be programmed into the panel phone numbers. Installers can select the central station service they wish to use from a list of approved central station providers. Only account numbers assigned by the central station must be programmed and the dialer selected for tone dialing output.

FEATURES AND BENEFITS

- CLSS enables monitoring of event transmission data & management of device inventory from the CLSS mobile app and web portal (available only when using point-based reporting)
- Meets UL864 requirements for Sole and Dual Path communications. Supports sole path communication leveraging redundant cell carriers (dual-SIM, Verizon, or AT&T) or a dual-path communication using IP as the primary path and redundant cellular carriers as the secondary path
- CLSS mobile app supports push and email notifications
- Remote firmware updates
- High reliability due to multiple transmission channels (LTE CAT-M1/LAN) and redundant servers
- Universal Panel Compatibility - Dialer capture interface supporting Contact ID, SIA or 4x2. (Supported SIA formats - SIA8, SIA20, SIA2000. Supported 4x2 frequencies - 1400 Hz, 2300 Hz)
- Unique "M1" Network is 5G ready, providing deep signal penetration that allows operation within buildings
- Four supervised inputs for non-dialer panels
- Exceptional Redundancy - Dual-SIM device. If one network becomes unavailable, the communicator connects to the other network
- Powered directly by a 24-volt DC fire alarm power supply. No need for additional batteries, transformer, or power supply
- Connection monitoring - adjustable fault reporting time
- Web-based software and smartphone app for device configuration and administration

Honeywell

HW-AV-LTE-M TECHNICAL SPECIFICATIONS

Characteristics	Imperial Unit	Metric Unit
Electrical		
Supply Voltage	+12 to +29 VDC	
Power Consumption	• Standby: 60 mA • Peak: 200 mA	
Frequency	LTE CAT-M1 700/850/1700/1900/2100 MHz	
Environment		
Operating Temperature	32°F to 120°F	0°C to 49°C
Relative humidity:	1% to 85% Non-condensing	
Physical		
Dimensions	3.54" L x 2.48" W x 1.26" D	90 mm L x 63 mm W x 32 mm D
Weight (without antenna)	2.56 oz	72.57 gm
RoHS	Yes	
Network Providers		
• AT&T, North America • Verizon, North America • Other provider in the area networks		

AGENCY LISTINGS AND APPROVALS

The listings and approvals below apply to the HW-AV-LTE-M Communicator. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Contact Honeywell for the latest listings.

- **UL Listed for UL864 Standard:** S35608 (Note: Check for UL receiver compatibility with Central Station)
- **ETL Listed for UL864 & UL1610 Standard:** 5013005
- **FCC**
- **CSFM:** 7300-1637: 0511
- **FDNY:** 2022-TMCOAP-001312-CERT
- **LAFD**

STANDARDS AND CODES

National Fire Protection Association:

- NFPA 70
- NFPA 72

ORDERING INFORMATION

- **HW-AV-LTE-M-2:** CLSS Pathway, Fire Alarm Dual Path Communicator, LTE Dual SIM, includes antenna, ETL & UL Listed HW-AV-LTE-M.
- **HW-AV-ENC:** Enclosure for the CLSS Pathway (HW-AV-LTE-M)

CUSTOMER SUPPLIED EQUIPMENT

Mobile Device for LTE Communicator configuration (either iOS or Android).

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AT&T® is a registered trademark of the AT&T Properties, L.P.

Honeywell® is a registered trademark of Honeywell International, Inc.

iOS® is a registered trademark of Cisco Systems Inc. licensed by Apple Inc.

Verizon® is a registered trademark of Verizon Trademark Services LLC.

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

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Honeywell

PAD100-PSSA/PSDA

Addressable Pull Station
Single/Dual Action

Features

- Single or Dual Action versions
- Durable die-cast construction
- Reset key matches the fire alarm control panels
- Compatible with IPA Series panels
- SLC Class A, Class X & Class B
- Product includes a 5 year warranty
- UUKL Listed for Smoke Control

FM APPROVED

Description

The PAD100-PSSA (Single Action) is activated by simply pulling the white "T" bar handle down. The PAD100-PSDA (Dual Action) is activated by lifting the front cover and then pulling the white "T" bar handle down. Once activated, the "T" bar cannot be reset without opening the front cover. Opening the front cover will also activate the pull station. To reset the PAD100-PS Series, use the Potter WS-93 key to unlock and open the front cover. Once the cover is open, push the "T" bar back into the normal position and re-secure the front cover.

Application

The PAD100-PSSA/PSDA is compatible with Potter's IPA and AFC/ARC series addressable fire alarm control panels. It is a non-coded addressable pull station available in either a single or dual action model and installs on a single gang box or surface mounts using the P32-BB or P32-DBB (deep) back box.

Technical Specifications

Operating Voltage	24.0 VDC
Max SLC Standby Current	200uA
Max SLC Alarm Current	200uA
Environmental Limitations	32°F - 120°F (0° - 49°C) Indoor Only
Dimensions	4.75" H x 3.25" W x 1.75" D
Relative Humidity Range	0 - 93% (non-condensing)
Mounting Options	Single gang box or Potter P32-BB/DBB
Shipping Weight	APS-SA - 1.22 lbs. APS-DA - 1.46 lbs.

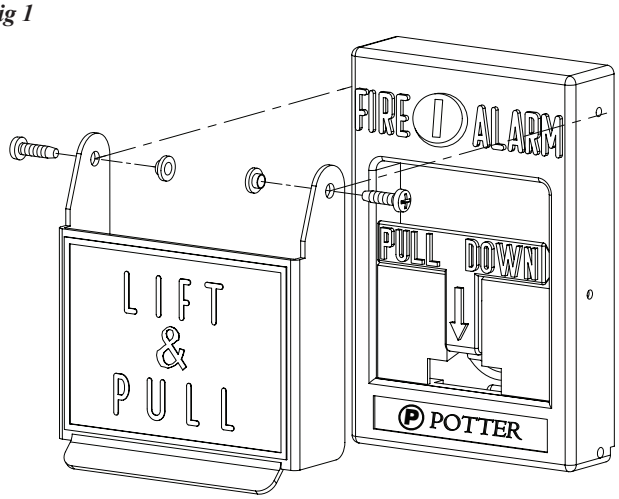
PAD100-PSSA/PSDA

Addressable Pull Station
Single/Dual Action

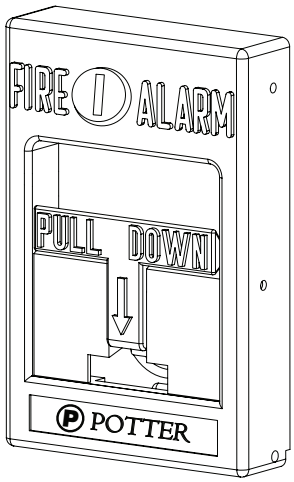
Setting the Address

The PAD100-PS Series uses one SLC address assigned to the device. The address is set using the DIP switch located on the back of the PAD100-PS device.

Pull Station Front View
Fig 1

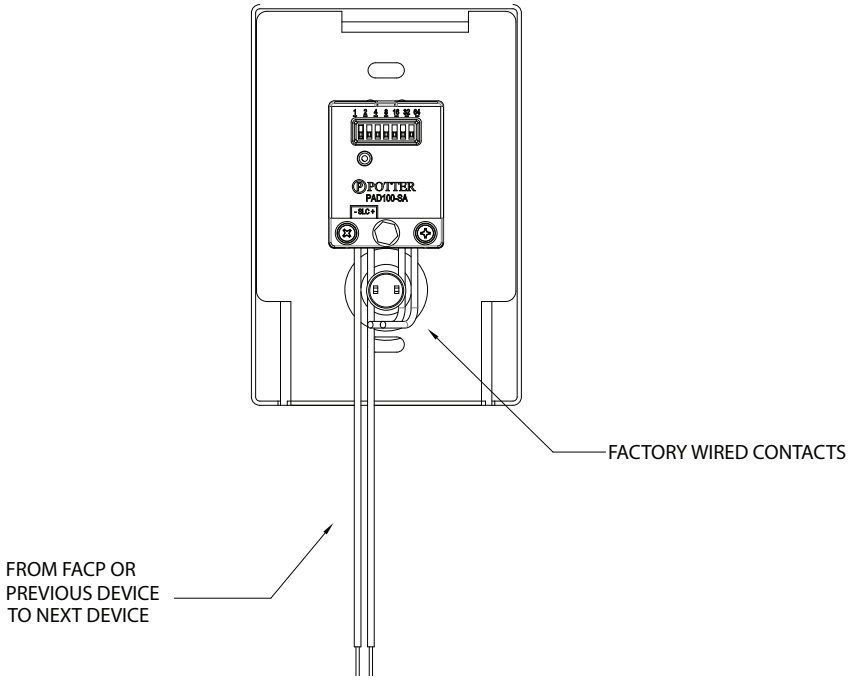


PAD100-PSDA



PAD100-PSSA

Pull Station Back View and Wiring
Fig 2



Ordering Information

Model	Description	Stock No.
PAD100-PSSA	Addressable Pull Station, Single Action	3992721
PAD100-PSDA	Addressable Pull Station, Dual Action	3992720

PAD300-HD

Heat Detector

Features

- Selectable Rate of Rise and/or Fixed Heat Detector
- Low Profile
- Reliable Detection Technology
- LED Alarm Indicator
- Ambient Temperature Listing of 32°F to 150°F
- Simple DIP Switch Address Setting, No Programming Tool Required
- Magnetic Test Switch
- Product includes 5-year warranty
- UUKL Listed for Smoke Control

Description

The PAD300-HD is a listed analog addressable rate of rise and/or fixed temperature heat detector compatible with any fire alarm control panel that has the Potter Addressable Device (PAD) protocol. The heat sensing portion utilizes a proven thermistor for accurate and reliable heat detection. The detector and base (not included) are made of a durable plastic in an off-white to blend in with the ceiling.

The PAD300-HD is UL listed with a selectable fixed temperature point from 135° to 185° Fahrenheit and can be used for rate of rise applications. See detector spacing limitations below. This flexibility allows the installer to cover a wide variety of applications with a single unit.

The PAD300-HD and the control panel communicate over a proven and robust digital communication path and the system analyzes the information at the particular device. The total polling speed is less than five (5) seconds, well under the UL requirements.

The detector is compatible with any of the PAD300 series detector bases and simply twists on. The PAD300-HD is addressed using DIP switches in the rear of the detector and can be easily programmed in the field without special tools.

Setting the Address

Each addressable device on the SLC loop must have a unique address from 1 to 127 to function properly. The address is set using DIP switches.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to SLC or device. Verify the following:

1. Power to the device is removed.
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Technical Specifications

Operating Voltage	24 VDC
Detector Current Draw	300 µA
Alarm Indicator	1 LED
Alarm Set-point Range	135°F to 185°F (57°C to 85°C)
Rate of Rise Detection (Selectable Option)	15°F/min. (8.3°C/min.)
Installation Temperature Range	32°F to 150°F (0°C to 66°C)
Operating Relative Humidity Range	0% to 93% (Non-condensing)
Start-up Time	Max. 1 sec.
Maximum Number of Addresses Per Loop	127
Maximum Number of Lighted Indicators in Alarm Per Loop	30
Color	Eggshell White
Weight (Without Base)	68 g (2.4 oz)
Dimensions (Without Base)	Height: 1.5 in (38 mm) Diameter 3.93 in (100 mm)

Operation

The PAD300-HD is an analog addressable detector that uses one address on the Signaling Line Circuit (SLC) of a compatible fire alarm control panel. The unit communicates with the control panel as it is polled. The LED flashes every time the unit is polled and it will flash at a fast rate if the unit is in an active status. The polling LED can be turned off if desired for less conspicuous operation.

The PAD300-HD with the PAD300-4DB or PAD300-6DB has a low profile to blend into the surrounding environment. The system has a maximum of 30 LEDs that can be turned on simultaneously. If the system already has 30 LEDs on, the PAD300-HD will operate even though the LED will not illuminate.

Spacing

The ANSI/UL listed spacing limitations of PAD300-HD smooth ceiling are dependent on alarm set point.

Alarm Set-Point	Rate of Rise Spacing	Fixed Temperature Spacing
135°F to 185°F (57°C to 85°C)	Max. 70 ft.	Max. 70 ft.

Compatible Bases

All bases will mount on a single gang, 3-1/2” octagon, 3-1/2” square, double gang, 4” octagon, 4” square, 50mm c/c, 60mm c/c and 70mm c/c boxes.

Device	Description	Stock No.
PAD300-4DB	4” Detector Base	3992781
PAD300-6DB	6” Detector Base	3992782
PAD300-IB	6” Base with an Isolator Module Included	3992783
PAD300-RB	6” Base with One Form-C Relay Contact 2A @ 30VDC, 0.5A @ 125VAC	3992784
PAD300-SB	6" Base with sounder module included. Sound pattern is provided from external source	3992785
PAD300-LFSB	6” Base with 520Hz sounder module included. Sound pattern is provided from external source	3992786

Ordering Information

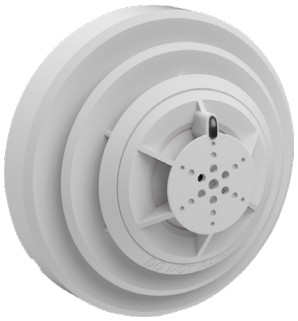
Model	Description	Stock No.
PAD300-HD	Heat Detector	3992776

PAD300-PHD

Photoelectric Smoke/Heat Detector

Features

- Heat Detector compliant with UL 521
- Selectable Rate of Rise and/or Fixed Heat Detector
- Reliable detection technology
- Wide selectable smoke sensitivity range of 1.1 to 3.5%/foot
- Detector communicates sensitivity to control panel
- UL listed smoke calibration and sensitivity
- Ambient temperature listing of 32 ° F to 115 ° F
- Optional locking tab to prevent unwanted removal
- Simple DIP switch address setting, no programming tool required
- LED alarm indicator
- Magnetic test switch
- Product includes 5-year warranty
- UUKL Listed for Smoke Control



Description

The PAD300-PHD is a listed Analog Addressable smoke detector and a rate of rise and/or fixed temperature heat detector compatible with fire alarm control panels that utilize the Potter Addressable Device (PAD) protocol. The PAD300-PHD is a low profile smoke/heat sensor with a wide sensitivity range. The heat sensing portion utilizes a proven thermistor for accurate and reliable heat detection. The detector and base are made of a durable plastic in an off-white color to blend in with the ceiling.

The PAD300-PHD is UL listed and has a sensitivity range of 1.1 to 3.5% per foot with a fix temperature alarm threshold of 135°F and can be used for rate of rise applications. See detector spacing limitations below. The PAD300-PHD features drift compensation and has built in dirty detector warning. The PAD300-PHD and the control panel communicate over a proven and robust digital communication path and the system analyzes the information at the particular device. The total polling speed is less than five (5) seconds, well under the UL requirements.

The detector is compatible with any of the PAD300 series detector bases and simply twists on. The PAD300-PHD is addressed using DIP switches in the rear of the detector and can be easily programmed in the field without special tools.

Setting the Address

Each addressable device on the SLC loop must have a unique address from 1 to 127 to function properly. The address is set using DIP switches.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to SLC or device. Verify the following:

1. Power to the device is removed.
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Technical Specifications

Operating Voltage	24 VDC
Detector Current Draw	300 µA
Alarm indicator	1 LED
Alarm set-point range for Smoke	1.1 to 3.5%/ft (3.6 to 11%/m)
Alarm set-point for Heat	135°F
Rate of Rise Detection (Selectable Option)	15°F/min. (8.3°C/min.)
Installation temperature range	32°F to 115°F (0°C to 46°C)
Operating relative humidity range	0% to 93% (Non-condensing)
Start-up time	Max. 1 sec.
Maximum number of addresses per loop	127
Maximum number of lighted indicators in alarm per loop.	30
Color	Eggshell White
Weight (without base)	91 g (3.25 oz)
Dimensions (without base)	Height: 1.7 in (43 mm) Diameter 3.93 in (100 mm)

Air Velocity Ratings

The PAD300-PHD has an Open Area of Protection air velocity rating of 0 to 300 feet per minute.

Operation

The PAD300-PHD is an analog addressable detector that uses one address on the Signaling Line Circuit (SLC) of a compatible fire alarm control panel. The unit communicates with the control panel as it is polled. The LEDs flash every time the unit is polled and they will flash rapidly if the unit is in an active status. The polling LED can be turned off if desired for less conspicuous operation.

The system has a maximum of 30 LEDs that can be turned on simultaneously. If the system already has 30 LEDs on, the PAD300-PD will operate even though the LED may not illuminate.

The PAD300-PHD with the PAD300-4DB or PAD300-6DB has a low profile to blend into the surrounding environment. The detector includes an insect screen to prevent foreign objects from reaching the chamber and can be cleaned to restore operation of a dirty detector.

Detector Sensitivity

The PAD300-PHD and the compatible control panel work in tandem to keep the sensitivity consistent. As the detector is installed over time, the detector compensates for the dirt in the unit until it is out of range. At that time, the panel will indicate a dirty detector. The detector will then have to be cleaned or replaced.

The PAD300-PHD can be programmed to provide a maintenance alert prior to reaching the dirty detector level which will allow for intervention prior to the detector going into trouble. This allows for detector replacement or cleaning prior to a nuisance trouble occurs.

NOTE: As required by NFPA, do not install the detectors until all construction is complete and the work area has been thoroughly cleaned. If the detectors have been installed in a construction environment, they should be cleaned or replaced before the system is placed into service.

Spacing

The PAD300-PHD is UL listed with a recommended maximum spacing of 30 feet. Refer to NFPA 72 for specific information regarding detector spacing, placement and special applications.

Compatible Bases

All bases will mount on a single gang, 3-1/2” octagon, 3-1/2” square, double gang, 4” octagon, 4” square, 50mm c/c, 60mm c/c and 70mm c/c boxes

Device	Description	Stock No.
PAD300-4DB	4” Detector Base	3992781
PAD300-6DB	6” Detector Base	3992782
PAD300-IB	6” base with an isolator module included	3992783
PAD300-RB	6” base with one Form-C relay contact. 2A @ 30VDC, 0.5A @ 125VAC	3992784
PAD300-SB	6" base with sounder module included. Sound pattern is provided from external source	3992785
PAD300-LFSB	6” base wih 520Hz sounder module included. Sound pattern is provided from external source	3992786

Ordering Information

Model	Description	Stock No.
PAD300-PHD	Photoelectric Smoke/Heat Detector	3992777