### Addendum No. 04

March 8, 2024



## PORTERVILLE COLLEGE CAREER CENTER

OWNER:	KERN COMMUNITY COLLEGE DISTRICT 2100 Chester Avenue Bakersfield, CA 93301
PREPARED BY:	PBK Architects, Inc. 4900 California Avenue, Suite 130-A Bakersfield, CA 93309
PBK PROJECT NO.:	S2102800AR
DSA FILE NO.:	15-C1
DSA APPLICATION NO.:	02-121795

#### NOTICE TO BIDDERS

- A. Receipt of this Addendum shall be acknowledged on the Proposal Form.
- B. This Addendum forms part of the Contract Documents for the above referenced project and shall be incorporated integrally therewith.
- C. Each proposer shall make necessary adjustments and submit their proposal with full knowledge of all modifications, clarifications, and supplemental data included therein. Where provisions of the following supplemental data differ from those of the original Contract Documents, this Addendum shall govern.

#### **DRAWINGS:**

AD4-01	SHEET E2.0 – Electrical Demo Plan
	E2.0 Electrical Demo Plan attached herein.
AD4-02	SHEET E3.0 – Electrical Lighting Plan
	Sontractor shall replace existing sheet E3.0 Electrical Lighting Plan with the revised sheet E3.0 Electrical Lighting Plan attached herein.
AD4-03	SHEET E4.0 – Electrical Schedules
	Contractor shall replace existing sheet E4.0 Electrical Schedules with the revised sheet
	E4.0 Electrical Schedules attached herein.
AD4-04	SHEET FA3.0 – Fire Alarm Riser Diagram

Contractor shall replace existing sheet FA3.0 – Fire Alarm Riser Diagram with the revised sheet FA3.0 – Fire Alarm Riser Diagram attached herein.

#### FIRE ALARM DEVICES

AD4-05 TrueAlarm Analog Sensing cut sheet



### March 8, 2024

## PORTERVILLE COLLEGE CAREER CENTER

RFI LOG:

AD4-06 Refer to RFI Log attached herein for A/E Team RFI responses.

END OF ADDENDUM NO. 4



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## ELECTRICAL SITE PLAN - CAREER CENTER

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SCALE: 1/4" = 1'-0"

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## ELECTRICAL PLAN - CAREER CENTER



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## LIGHTING PLAN - CAREER CENTER

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### SCALE: 1/4" = 1'-0"

SCALE: 1/4" = 1'-0"

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							PAN	EL LA							
SERVICE: 120/208V 30 4W				MAIN B	REAKER:	225		BUS:					LOCATION	I: SEE PLAI	N
PANELBOARD													MOUNTIN	G:	
		LOAD		TDID			CIRCUI	CIRCUI	WIDE				LOAD		DEMADIKO
KEMAKKS:	фА	фВ	фС		POLE	WIRE	T	Т	WIRE	POLE		фА	фВ	фС	REMARKS:
EXISTING	4200			60		12	1	2	12	$\sim$	70	4960			EXISTING
EXISTING		4200			Z	12	3	4	12		$\mathbf{k}$		4960		EXISTING
EXISTING			4200	$\bigvee$	3	12	5	6	12	3				4960	EXISTING
EXISTING	1296			20	1	12	7	8	12	1	20	180			EXISTING
EXISTING		1296		20	1	12	9	10	12	1	20		1200		EXISTING
EXISTING			1296	20	1	12	11	12	12	1	20			1640	EXISTING
EXISTING	1296			20	1	12	13	14	12	1	20	1640			EXISTING
EXISTING		532		20	1	12	15	16	12	1	20		900		EXISTING
EXISTING			900	20	1	12	17	18	12	1	20			900	EXISTING
EXISTING	720			20	1	12	19	20	12	1	20	720			EXISTING
				20	1	12	21	22	12	1	20		1080		EXISTING
RECEPTACLE			360	20	1	12	23	24	12	1	20			1080	EXISTING
RECEPTACLE	540			20	1	12	25	26	12	1	20	720			EXISTING
RECEPTACLE		360		20	1	12	27	28	12	1	20		720		EXISTING
RECEPTACLE			360	20	1	12	29	30	12	1	20			540	EXISTING
LIGHTS	600			20	1	12	31	32	12	1	20	720			EXISTING
LIGHTS		600		20	1	12	33	34	12	1	20		540		EXISTING
FACP RED LOCKED			200	20	1	12	35	36	12	1	20			720	EXISTING
PROJECTOR	800			20	1	12	37	38	12	1	20				
				20	1	12	39	40	12	1	20				
				20	1	12	41	42	12	1	20				
TOTAL CONNECTED LOADS:	9,452	6,988	7,316									8,940	9,400	9,840	TOTAL CONNECTED LOADS
PHASE A:		18,392W	•									MINIMUM	I BKR A.I.C	C. RATING:	65KAIC
PHASE B:		16,388W									NOTES	:			
PHASE C:		17,156W		* REFE	R TO SI	NGLE LIN	ie for size	Ξ							
TOTAL WATTS:		51,936W													
TOTAL AMPS:		144.2A													

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		LIGHT FIXTURE SCHEDULE
TYPE	INPUT WATTS	DESCRIPTION AND MANUFACTURER
F1	38.5	2x4 RECESSED MOUNTED LIGHT FIXTURE VOLTAGE: MVOLT LAMP: LED MANUFACTURER: LITHONIA LIGHTING #2GTL 4 48L MVOLT GZ10 LP835
F2	15	CAN LIGHT FIXTURE VOLTAGE: MVOLT LAMP: LED MANUFACTURER: LITHONIA LIGHTING #LDN4-35-15-L04AR-LSS-MVOLT-EZ1
X1	1.5	LED EXIT/EMERGENCY UNIT COMBO (INTERIOR EXIT DOOR) VOLTAGE: MULTI-VOLT LAMP: LED MANUFACTURER: LITHONIA LIGHTING #ECC-R-REM
X2	6.95	EGRESS LIGHT - EXTERIOR WALL MOUNTED VOLTAGE: MULTI VOLT LAMP: LED MANUFACTURER: LITHONIA LIGHTING #AFB-PEL-DDBTXD-UVOLT-N-SDRT-WT

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# SINGLE LINE DIAGRAM

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VOLTAGE: MVOLT
REMARKS
OR APPROVED EQUAL
OR APPROVED EQUAL
90 MIN EM LIGHT WALL AND CEILING MOUNTED
90 MIN EM LIGHT MOUNTING HT: 7.5' 29FT APART MAX DISTANCE



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A	A-Z14	ADDRESSABLE DUCT SMOKE DETECTORS	
F	A-Z4	ACADEMIC CENTER	
S	A-Z5	BUSINESS EDUCATION	
S	A-Z6	LANGUAGE ARTS	
S	A-Z7	STUDENT SERVICES	
S	A-Z8	ADMISSIONS	
S	A-Z9	LOBBY	
HD	A-Z10	ELECTRICAL ROOM	FIRE ALARM SECURITY
M — — — — A	1	LOBBY	
M — — — — A	2	ADMISSION	
M A K K - A	3	STUDENT SERVICES	
M A K A	4	BUSINESS EDUCATION	
M A K A	5	LANGUAGE	
M — — — — A	6	ELECTRICAL ROOM	

CCI-4A CCI-4		HD SD SD ( CI-5 CCI-6 CCI-7 CCI	Ю <u>Ю</u> Ю II—8 CCI—9 CCI—10 CCI—11 CCI—12	
S A-Z11	HEALTH			
S A-Z12	DEANS OFFICES			
F A-Z13	ACADEMIC NORTH	4		
(M) (K)	A7	DEANS OFFICES	FIRE_ALARM_SECURITY	
(M) — — (K) — —	A8	PRESIDENT'S OFFICES		
(M) — — (K) — —	A9	BUSINESS SERVICES	OFFICE	
(M) — —	A10	HEALTH	E 18218	<b>CANTELMI ENGINEERING</b> M E C H A N I C A L / E L E C T R I C A L 1800 21 STREET, SUITE C BAKERSFIELD, CA 93301 LICENSE #21190 TEL: (661) 324–5252 FAX: (661) 324–8439 Cantelmi@Cantelmi.NET



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#### ARCHITECT'S PROJECT NO: S2102800AR

PROJECT NAME: Porterville College - Career Center
REFERENCE AND DATE Addendum No. 4- 03/08/2024

DSA File No: 15-C1

DSA App No: 02-121795

RFI #	DATE RECEIVED	QUESTION	CONTRACTOR/SUBCONTRACTOR TRADE	RESPONSE	ТО	DATE RETURNED
1	2/21/24	Where do I send my bid for the Porterville College Career Center?	One Way Flooring	All bids must be received at the Porterville College 100 E. College Ave, Porterville, CA 93257 at the Maintenance and Operations Building by 11:00 a.m. on the 12th day, March 2024 and will be publicly opened at or after that time.	РВК	3/5/24
2	2/29/24	Please clarify the Interior Wall Finishes. The various cross hatches shown on the Interior Wall Legend on sheet A7.1 are difficult to clearly differentiate when comparing to the cross hatching shown on different areas of the walls. Can the walls be labeled with the required finish?	McMurtrey Lince, Inc.	Interior wall finishes are clearly identified in the Interior elevation sheet. Wall tags are a preference. Contract Documents provide clear and concise information.	РВК	3/5/24
3	2/29/24	Please provide specifications for the Wall Talkers as indicated in the Interior Elevation Legend on Sheet A7.1.	McMurtrey Lince, Inc.	Refer to Specification Section 09 97 35 DRY ERASE COATINGS issued as part of addendum No. 3	PBK	3/5/24
4	2/29/24	<u>Please clarify the requirements for substrate behind the Wall Talkers</u> <u>as indicated in the Interior Elevation legend on Sheet A7.1.</u> The finish schedule on sheet A2.1 indicates that vinyl tackboard is required on the south and west walls. Wall Talkers are shown on the center portion of the south wall. Please provide a detail showing the transition from the vinyl tackboard to the Wall Talkers.	McMurtrey Lince, Inc.	Refer to Specification Section 09 97 35 DRY ERASE COATINGS and Specification Section 09 72 16 VINYL- COATED FABRIC WALL COVERINGS issued as part of addendum No. 3. Use edge molding as indicated in 2.2 MATERIAL Item D Trim.	PBK	3/5/24
5	2/29/24	Please clarify the Interior Wall Finishes. The various cross hatches shown on the Interior Wall Legend on sheet A7.1 are difficult to clearly differentiate when comparing to the cross hatching shown on different areas of the walls. Can the walls be labeled with the required finish?	McMurtrey Lince, Inc.	Interior wall finishes are clearly identified in the Interior elevation sheet. Wall tags are a preference. Contract Documents provide clear and concise information.	РВК	3/5/24
6	2/29/24	Please clarify what the required substrate behind the vinyl tackboard as shown on the Interior Elevation legend on Sheet A7.1.	McMurtrey Lince, Inc.	1/2 inch thick, fiberboard complying with ASTM C208	РВК	3/5/24
7	2/29/24	Please clarify what the required substrate behind the Wall Talkers as shown on the Interior Elevation legend on Sheet A7.1. <b>This is a duplicate question</b>	McMurtrey Lince, Inc.	Duplicate question-Same as #6	РВК	3/5/24
8	2/29/24	Please provide location of electrical panel LA.	McMurtrey Lince, Inc.	Refer to sheet E2.0 - Provided location of existing panel LA to remain	Cantelmi	3/8/24
9	2/29/24	Please provide location of Telco backboard as shown in detail 9 on sheet E5.0.	McMurtrey Lince, Inc.	provided location of existing telco backboardk, removed detail on sheet E5.0	Cantelmi	3/8/24
10	2/29/24	Please provide location of Astronomical Timeclock as shown in detail 4 on Sheet E5.0.	McMurtrey Lince, Inc.	provided location of astronomical timeclock	Cantelmi	3/8/24



RFI #	DATE RECEIVED	QUESTION	CONTRACTOR/SUBCONTRACTOR TRADE	RESPONSE	то	DATE RETURNED
11	2/29/24	Please clarify the requirements for the Bulletproof for Glass Alternate Bid #1 as shown on Sheet A2.1. Spec. Section 08 88 56 includes multiple laminated assemblies for ballistic glazing. Which is required for Alternate 1?	McMurtrey Lince, Inc.	Contractor shall install Attack resistant Glazing SG-FE9. Disregard all other glass types.	РВК	3/5/24
12	2/29/24	Plan sheet A3.1 indicates a projector per Keynote 11.B01 and says "see electrical plans". The projector is not shown on the electrical plans, please clarify. If a projector is to be included in the bid please provide specs. For the required projector. Please clarify any requirements for power and/or data for this projector.	McMurtrey Lince, Inc.	The projector is owner provided. Owner will install a short throw projector mounted to the wall. Contractor shall provide blocking for short throw projector per detail 27/AX6.1	РВК	3/5/24
13	2/29/24	General Note 2 on sheet A3.1 refers to Technology Drawings. Technology drawings are not included in the bid set of drawings. Are Technology drawings available?	McMurtrey Lince, Inc.	Refer to revised sheet E3.0 Noted locations of phone & data on plan. No technology drawings available, locations of data shown on plan, see revised plan.	Cantelmi	3/8/24
14	2/29/24	Detail 11 on Sheet A7.1 shows a plywood strip behind the rubber topset base. Is this plywood required to be pressure treated?	McMurtrey Lince, Inc.	Detail reference is incorrect. We assumed that the question is pertaining to detail 11 on sheet AX6.1. Plywood must be pressure treated.	РВК	3/5/24
15	2/29/24	Sheet A5.1 call for the dimensions of the cast aluminum lettering to be on AX6.1 detail 27. That appears to be a different detail. We can't find the dimensions on any other detail. Please advise as to sign dimensions.	McMurtrey Lince, Inc.	Exterior lettering is 12" tall. Refer to specification section 10 14 00 Graphics and Signage section 2.2/C for mounting requirements.	РВК	3/5/24
16	2/29/24	Please clarify the requirements for Data and Telecommunications.	McMurtrey Lince, Inc.	Refer to revised sheet E3.0 Noted locations of phone & data on plan	Cantelmi	3/8/24
17	2/29/24	The scope of work on sheet T1 indicates that Remediation of Lead and Asbestos is included. Please provide an abatement report for the project and clarify the scope of work for Remediation.	McMurtrey Lince, Inc.	Refer to addendum No. 2. No Asbestos or Lead found.	PBK	3/5/24
18	2/29/24	The Lighting schedule on sheet E4.0 calls for an exterior egress light "X2" and notes 29FT apart Max distance. The lighting plan on sheet E3.0 does not show any X2 fixtures. Please verify that fixture type X2 is not required.	McMurtrey Lince, Inc.	2 fixtures at exterior, noted on sheet E3.0	Cantelmi	3/8/24
19	2/29/24	The Lighting schedule on sheet E4.0 calls for an interior egress light "X3" and notes 18ft apart Max distance. The lighting plan on sheet E3.0 does not show any X3 fixtures. Please verify that only 3 ea. Fixture type X3 is not required.	McMurtrey Lince, Inc.	Not required, removed from lighting schedule	Cantelmi	3/8/24
20	2/29/24	Please clarify what is to be included in the bid for Assistive Listening Systems as shown in Spec. section 24 51 26. Is an Assistive Listening System to be included in the bid?	McMurtrey Lince, Inc.	The Specification Section in question is not part of the contract document for this project.	РВК	3/5/24
21	3/4/24	What is the required license for this project?	Ken Smith Construction	Class B contractor license is required.	PBK	3/5/24
22	3/4/24	What is the estimated start date?	Ken Smith Construction	1-Apr-24	PBK	3/5/24
23	3/4/24	What is the estimated project duration?	Ken Smith Construction	60 calendar days	PBK	3/5/24
24	3/4/24	What is the estimated value of this project?	Ken Smith Construction	The project estimate is \$180,000.00 (One Hundred Eighty Thousand Dollars)	PBK	3/5/24
25	3/4/24	How much are the liquidated damages?	Ken Smith Construction	Liquidated damages are \$1,000.00 per calendar day	PBK	3/5/24
26	3/4/24	Will there be 5% or 10% retainage?	Ken Smith Construction	5% retainage will apply for the duration of the project.	PBK	3/5/24
27	3/4/24	Does Davis-Bacon apply to the project?	Ken Smith Construction	No.	PBK	3/5/24
28	3/4/24	Is the form "17 Davis-Bacon Compliance Certification" required within the bid package? If so, please send the applicable wage determination for project.	Ken Smith Construction	Davis Bacon Compliance Certification is not required to be submitted with the Bid form. Anyone working on a public works project must be paid prevailing wages as determined by DIR.	PBK	3/5/24



UL, ULC, CSFM Listed;FM Approved\*

#### Features

#### TrueAlarm analog sensing provides the following features

 Digital transmission of analog sensor values using IDNet or MAPNET II two-wire communications

#### For use with the following Simplex products

- 4007ES, 4010, 4010ES, 4100ES, and 4100U Series control units ; and 4008 Series control units with reduced feature set (refer to data sheet *S4008-0001* for details)
- 4020, 4100, and 4120 Series control units, Universal Transponders, and 2120 TrueAlarm CDTs equipped for MAPNET II operation

#### Fire alarm control unit provides the folloing features

- Peak value logging with accurate analysis of each sensor for individual sensitivity selection
- Sensitivity monitoring meets NFPA 72 sensitivity testing requirements; automatic individual sensor calibration check verifies sensor integrity
- Automatic environmental compensation, multi-stage alarm operation, and display of sensitivity directly in percent for each foot
- · Display and print detailed sensor information in plain English language

#### Photoelectric smoke sensors provide the following features

• Sensitivity levels from 0.2% to 3.1%. See TrueAlarm sensors for more information.

#### Heat sensors have these features

- Three fixed temperature sensing thresholds: 135°F, 155°F and 190°F
- Rate-of-rise temperature sensing
- Utility temperature sensing
- · Listed to UL 521 and ULC-S530

#### **General features**

- · Ceiling or wall mounting
- · Listed to UL 268 7th Edition and ULC-S529
- NEMA 1 rated. See TrueAlarm analog sensing product selection chart for more information.
- Louvered smoke sensor design enhances smoke capture by directing flow to chamber; entrance areas are minimally visible when ceiling mounted
- · Designed for EMI compatibility
- Magnetic testing
- Different bases support a supervised or unsupervised output relay, or a remote LED alarm indicator

#### Additional base reference

- For isolator bases, refer to data sheet S4098-0025
- For sounder bases, refer to data sheet S4098-0028
- For photo/heat sensors, refer to data sheet S4098-0024, single address and S4098-0033, dual address

#### Description

#### Digital communication of analog sensing

TrueAlarm analog sensors provide an analog measurement digitally communicated to the host control panel using Simplex addressable communications. The control unit analyses the data, determines an

average value and stores it. Comparing the sensor's present value against its average value and time, determines an alarm or other abnormal condition.

Datasheet

TrueAlarm Analog Sensing

#### Intelligent data evaluation

Monitoring each sensor's average value provides a continuously shifting reference point. A software filtering process compensates for environmental factors, such as dust and dirt, and component aging, to provide an accurate reference for evaluating new activity. This filtering reduces the probability of false or nuisance alarms caused by shifts in sensitivity, either up or down.

#### **Control unit selection**

The control unit stores peak activity for each sensor to assist in evaluating specific locations. The host control unit determines the alarm set point for each TrueAlarm sensor, selectable as more or less sensitive as the individual application requires.



Figure 1: 4098-9714 TrueAlarm photoelectric sensor mounted in base

#### Timed/multi-stage selection

You can program the sensor alarm set points for timed automatic sensitivity selection, such as more sensitive at night, less sensitive during day. You can program the control unit to provide multi-stage operation for each sensor.

#### Sensor alarm and trouble LED indication

Each sensor base's LED pulses to indicate communications with the unit. If the control unit determines a sensor is in alarm, is dirty, or has some other type of trouble, the details are annunciated at the control unit and the sensor's base LED will turn on steadily. During a system alarm, the control unit will control the LEDs such that an LED indicating a trouble will return to pulsing to help identify the alarmed sensors.

#### TrueAlarm sensor bases and accessories

#### Sensor base features

#### **Base mounted address selection**

- · Address remains with its programmed location
- Accessible from front, DIP switch under sensor

#### **General features**

- Automatic identification provides default sensitivity when substituting sensor types
- · Integral red LED for power-on, pulsing, or alarm or trouble, steady on
- · Locking anti-tamper design mounts on standard outlet box
- Magnetically-operated functional test

\* These products have been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listings 7272-0026:218, 7271-0026:231, 7270-0026:216, and 7300-0026:217 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable, contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

### **Simplex**

TrueAlarm Analog Sensors - Photoelectric and Heat; Standard Bases and Accessories

#### Sensor bases

#### 4098-9792, standard sensor base

#### 4098-9789, sensor base with wired connections

 2098-9808 remote LED alarm indicator or 4098-9822 relay (relay is unsupervised and requires separate 24 VDC)

Supervised relay bases not compatible with 2120 CDT:

- **4098-9791, 4-wire sensor base,** use with remote or locally mounted 2098-9737 relay, requires separate 24 VDC
- **4098-9780, 2-wire sensor base,** use with remote or locally mounted 4098-9860 relay, no separate power required
- Supervised relay operation is programmable and can be manually operated from control unit
- Includes wired connections for remote LED alarm indicator or 4098-9822 relay, relay is unsupervised and requires separate 24 VDC

#### Sensor base options

#### 2098-9737, remote or local mount supervised relay

- DPDT contacts for resistive/suppressed loads
- power limited rating of 3 A at 28 VDC
- non-power limited rating of 3 A at 120 VAC, requires external 24 VDC coil power

#### 4098-9860, remote or local mount supervised relay

 SPDT dry contacts, power limited rating of 2 A at 30 VDC, resistive; nonpower limited rating of 0.5 A at 125 VAC, resistive

#### 4098-9822, LED annunciation relay

- · Activates when base LED is on steady, indicating local alarm or trouble
- DPDT contacts for resistive/suppressed loads, power limited rating of 2 A at 28 VDC; non-power limited rating of 1/2 A at 120 VAC, (requires external 24 VDC coil power)

#### 4098-9832, adapter plate

- Required for surface or semi-flush mounting to 4 in. square electrical box and for surface mounting to 4 in. octagonal box
- Can be used for cosmetic retrofitting to existing 6 3/8 in. diameter base product

#### 2098-9808, remote red LED alarm indicator

• Mounts on single gang box



#### Figure 2: Remote red LED alarm indicator

#### Description

TrueAlarm sensor bases contain integral addressable electronics that constantly monitor the status of the detachable photoelectric or heat sensors. Each sensor's output is digitized and transmitted to the system fire alarm control unit every four seconds.

You can easily interchange different TrueAlarm sensor types to meet specific location requirements. This feature allows intentional sensor substitution during building construction. When conditions are temporarily dusty, you can install heat sensors without reprogramming the control unit, as covering smoke sensors causes them to be disabled. Although the control unit will indicate an incorrect sensor type, the heat sensor will operate at a default sensitivity providing heat detection for building protection at that location.

#### Mounting reference

#### Electrical Box Requirements: (boxes are by others)

Without relay in the box: 4" octagonal or 4" square, 1-1/2" deep; single gang, 2" deep

With relay in the box : 4" octagonal or 4" square, 1-1/2" deep, with 1-1/2" extension ring

4" (102 mm) Square Box

4" (102 mm) Octagonal Box





1-1/2" (38 mm) minimum box depth

Flush mount reference, mount even with final surface, or with up to 1/4" (6.4 mm) maximum recess



#### Figure 3: Mounting reference

#### Table 1: Product mounting - SKU reference

Product	SKU
Relay	4098-9822
Supervised relay	Example 1 2098-9739
	Example 2 4098-9860
Adapter plate	4098-9832
TrueAlarm bases	4098-9780, 4098-9789, 4098-9791,
	4098-9792



#### **TrueAlarm sensors**

#### Features

- · Sealed against rear air flow entry
- Interchangeable mounting
- EMI/RFI shielded electronics
- Heat sensors:
  - Selectable rate compensated, fixed temperature sensing with or without rate-of-rise operation
  - Rated spacing distance between sensors:

Fixed Temp.	UL and ULC	FM Spacing, Either Fixed
Setting	Spacing	Temperature Setting
135°F (57.2°C)	60 ft x 60 ft	20 ft x 20 ft (6.1 m) for fixed
190°F (88°C)	(18.3 m)	temperature only; RTI = Quick
155°F (68°C)	40 ft x 40 ft (12.2 m)	50 ft x 50 ft (15.2 m) for fixed temperature with either rate-of-rise selection; RTI = Ultra Fast

Note: 190°F (88°C) ratings apply only to the 4098-9734 sensor.

#### Smoke sensors

- Photoelectric technology sensing
- 360° smoke entry for optimum response
- Built-in insect screens

#### 4098-9714 photoelectric sensor

TrueAlarm photoelectric sensors use a stable, pulsed LED light source and a silicon photodiode receiver to deliver consistent and accurate low power smoke sensing. There are three user-selectable sensitivities for special applications for each individual sensor: 0.2%, 0.5%, and 1% for each foot. Standard sensitivity is 1.25% to 3.1% for each foot. The fire alarm control unit runs an algorithm that can vary the sensitivity for normal applications between 1.25% and 3.1% for each foot.

**Note:** Fixed sensitivity settings higher than 1.0% for each foot are not UL268 7th Edition compliant.

The sensor head design provides 360° smoke entry for optimum response to smoke from any direction. Due to its photoelectric operation, air velocity is not normally a factor, except for impact on area smoke flow.



Figure 4: 4098-9714 photoelectric sensor with base

#### 4098-9733 and 4098-9734 heat sensors

TrueAlarm heat sensors are self-restoring and provide ratecompensated, fixed temperature sensing, you can select with or without rate-of-rise temperature sensing. Due to its small thermal mass, the sensor accurately and quickly measures the local temperature for analysis at the fire alarm control unit.

You can select rate-of-rise temperature detection at the control unit for either 15°F or 20°F, (8.3°C or 11.1°C) for each minute. Fixed temperature sensing is independent of rate-of-rise sensing and you can program it to operate at 135°F or 155°F (57.2°C or 68°C). The 4098-9734 sensor provides an additional 190°F (88°C) set point.

In a slowly developing fire, the temperature may not increase rapidly enough to operate the rate-of-rise feature. However, an alarm will be initiated when the temperature reaches its rated fixed temperature setting.

You can program TrueAlarm heat sensors as a utility device to monitor for temperature extremes in the range of 32°F to 155°F (0°C to 68°C). This feature can provide freeze warnings, or alert you to HVAC system problems. Refer to panel specifications for availability.



Figure 6: 4098-9734 high temperature heat sensor with base

**WARNING:** In most fires, hazardous levels of smoke and toxic gas can build up before a heat detection device would initiate an alarm. In cases where Life Safety is a factor, the use of smoke detection is highly recommended.

#### Application reference

Sensor locations should be determined only after careful consideration of the physical layout and contents of the area to be protected. Refer to NFPA 72, *the National Fire Alarm and Signaling Code*. On smooth ceilings, a smoke sensor spacing of 30 ft (9.1 m) can be used as a guide.

For detailed application information including sensitivity selection, refer to *Installation Instructions* **574-709**.

#### TrueAlarm analog sensing product selection chart

#### Table 2: TrueAlarm sensor bases (for use with sensors 4098-9714 and 4098-9733)

SKU	Color	Description	Compatibility	Mounting requirements
4098-9792	W/bito			4 in. octagonal or 4 in. square
GSA4098-9792	vvince	Standard sensor base	No options	box, 1 1/2 in. min. depth; or single gang box, 2 in. min. depth
4098-9776	Black			
4098-9789				
4098-9789IND	White	Sensor base with connections	2098-9808 remote alarm indicator or 4098-9822 unsupervised relay	4 in. octagonal or 4 in. square box <b>Note:</b> Box depth requirements depend on total wire count and wire size
GSA4098-9789		or unsupervised relay		
4098-9775	Black			
4098-9791		4-wire sensor supervised relay base with connections for LED indicator or unsupervised relay	2098-9737 supervised remote relay	
Note: NOT compati- ble with the 2120 CDT	White		2098-9808 remote alarm indicator or 4098-9822 unsupervised relay	
4098-9780			4098-9860 supervised remote relay	see Table 4 for reference
GSA4098-9780	White	2-wire sensor supervised relay base with connections for LED	2098-9808 remote alarm indicator or	
<b>Note:</b> NOT compatible with the 2120 CDT		indicator or unsupervised relay	4098-9822 unsupervised relay	

Note: SKU numbers ending in IND are assembled in India. SKU numbers with GSA prefix are assembled in the USA.

Refer to Application Manual 574-709 and Installation Instructions 574-707 for additional information.

#### Table 3: TrueAlarm sensors

SKU	Color	Description	Compatibility	Mounting requirements
4098-9714				
4098-9714-IND	White	Dhataalastria amalka aanaar	Bases 4098-9775, 4098-9776, 4098-9792, 4098-9789, 4098-9791, and 4098-9780	Refer to base requirements
GSA4098-9714		Photoelectric sinoke sensor		
4098-9774	Black	-		
4098-9733	White	Heat sensor		
GSA4098-9733				
4098-9778	Black			
4098-9734	W/bito	Lligh temperature heat concer		
GSA4098-9734	WITTLE			

#### Note:

• All of these SKUs are NEMA 1 rated.

• The 4098-9734 Heat Sensor is compatible with IDNet on the 4100ES, 4010ES, and 4007ES only.

• SKU numbers with GSA prefix are assembled in the USA.

#### Table 4: TrueAlarm sensor/base accessories

SKU	Description	Compatibility	Mounting requirements
2098-9737	Supervised relay, mounts remote or in base electrical box	For use with 4098-9791 base	Remote mounting requires 4 in. octagonal or 4 in. square box, 1 1/2 in. minimum
4098-9860	Supervised relay, mounts remote or in base electrical box	For use with 4098-9780 base	depth Base mounting requires 4 in. octagonal box, 2 1/8 in. deep with 1 1/2 in. extension ring
2098-9808	Remote red LED alarm indicator on single gang stainless steel plate	Bases 4098-9789, 4098-9791, and 4098-9780	Single gang box, 1 1/2 in. minimum depth
4098-9822	Unsupervised relay, tracks base led status. <b>Note:</b> Mounts only in base electrical box.	Bases 4098-9789, 4098-9791, and 4098-9780	4 in. octagonal box, 2 1/8 in. deep with 1 1/2 in. extension ring
4098-9832	Adapter plate	Bases 4098-9792, 4098-9789, 4098-9791, and 4098-9780	Required for surface or semi-flush mounted 4 in. square box and for surface mounted 4 in. octagonal box

Note: 2098-9808 is NEMA 1 rated.

#### Specifications

#### Table 5: General operating specifications

Specification		Rating	
Communications and sensor supervisory power		IDNet or MAPNET II communications, auto-selected, one address for each base	
Communications connections		Screw terminals for in/out wiring, 18 to 14 AWG, 0.82 mm <sup>2</sup> to 2.08 mm <sup>2</sup>	
Remote LED alarm indicator current		1 mA typical, no impact to alarm current	
Remote LED alarm indicator and relay connections		Color coded wire leads, 18 AWG, 0.82 mm <sup>2</sup>	
UL listed operating temperature range		32°F to 100°F, 0°C to 38°C	
Operating temperature range	with 4098-9733 Heat Sensor	32°F to 122°F, 0°C to 50°C	
	with 4098-9714 Smoke Sensor	15°F to 122°F, -9°C to 50°C	
	with 4098-9734 Heat Sensor	32°F to 150°F, 0°C to 66°C	
Storage temperature range		0°F to 140°F, -18°C to 60°C	
Humidity range		10% to 95% RH	
4098-9714 smoke sensor air velocity rating		0 to 4000 ft/min, 0 to 1220 m/min	
Housing color		Frost white or black	

#### Table 6: 4098-9791 Base with supervised remote relay 2098-9737

Specification	Rating
Externally supplied relay coil voltage	18 VDC to 32 VDC, nominal 24 VDC
Supervisory current	270 μA, from 24 VDC supply
Alarm current with 2098-9737 relay	28 mA, from 24 VDC supply
Note: Soo Sonsor base options for contact ratings	

**Note:** See Sensor base options for contact ratings.

#### Table 7: 4098-9780 Base with supervised remote relay 4098-9860

Specification	Rating	
Power	Supplied from communications	
Table 8: 4098-9822 Unsupervised relay, requirements for bases 4098-9789, 4098-9791, and 4098-9780		
Specification	Rating	
Externally supplied relay coil voltage	18 VDC to 32 VDC, nominal 24 VDC	
Supervisory current	Supplied from communications	
Alarm current	13 mA from separate 24 VDC supply	

Note: See Sensor base options for contact ratings.

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