



Submittal Cover

KANSAS CITY, MO
4600 Madison Avenue
Suite 350
Kansas City, Missouri 64112

OMAHA, NE
622 North 109th Plaza
Omaha, Nebraska 68154

Toll free 888.756.1958

TO:

COMPANY:

ADDRESS:

DATE:

PROJECT:

FROM:

EMAIL:

SAI PROJECT#:

SUBMITTAL#

DESCRIPTION

COMMENTS:

ACTION / DISPOSITION

SLAGGIE ARCHITECTS, INC.

Revisions or comments made on this submittal do not relieve contractor from compliance with requirements of the contract documents. The review is only for general conformance with the information given in the contract documents. The contractor is responsible for:

- (a) confirming and correlating all quantities and dimensions including verification of field dimensions;
- (b) selecting the fabrication process and the construction means, methods, techniques, sequences and procedure;
- (c) coordinating the work with that of all other trades and; (d) performing the work in a safe and satisfactory manner.

☒ Reviewed:
No Exceptions Taken

☐ Reviewed As Noted:
Resubmission Is Not Required

☐ Reviewed As Noted:
Submit Corrected Copy

☐ Rejected:
Revise And Resubmit

By: GBernard Date: 12/27/2022



Submittal #28 31 11-1.0 28 31 11 - Digital, Addressable Fire-Alarm System

Centric
520 W Pennway St, Suite 100
Kansas City, Missouri 64108
Phone: 8163898300

Project: 22-024 - K1 Speed
2911 NE Independence Ave
Lee's Summit, Missouri 64064

Fire Alarm - Shop Drawings

SPEC SECTION:	28 31 11 - Digital, Addressable Fire-Alarm System	SUBMITTAL MANAGER:	Isaac Leon (Centric Projects, LLC)
STATUS:	Open	DATE CREATED:	12/22/2022
ISSUE DATE:	12/22/2022	REVISION:	0
RESPONSIBLE CONTRACTOR:	Torgeson Electric	RECEIVED FROM:	Linda Eisenhut
RECEIVED DATE:	12/20/2022	SUBMIT BY:	12/22/2022
FINAL DUE DATE:	12/29/2022	LOCATION:	
TYPE:	Shop Drawing	COST CODE:	16-200-01 - Electrical
APPROVERS:	Greg Bernard (Slaggie Architects, Inc.), Kip Brown (Slaggie Architects, Inc.), CW Keller (Slaggie Architects, Inc.)		
BALL IN COURT:	Greg Bernard (Slaggie Architects, Inc.), Kip Brown (Slaggie Architects, Inc.), CW Keller (Slaggie Architects, Inc.)		
DISTRIBUTION:	Shane Cline (Centric Projects, LLC)		
DESCRIPTION:	Please see attached submittal for approval.		
ATTACHMENTS:	28 31 11 - 1.0 - Fire Alarm - Shop Drawings.pdf		

SUBMITTAL WORKFLOW

#	NAME	SUBMITTER/ APPROVER	SENT DATE	DUE DATE	RETURNED DATE	RESPONSE	ATTACHMENTS	COMMENTS
1	Greg Bernard	Approver	12/22/2022	12/29/2022		Pending		
2	Kip Brown	Approver	12/22/2022	12/29/2022		Pending		
3	CW Keller	Approver	12/22/2022	12/29/2022		Pending		

CONTRACTOR REVIEW ONLY
Centric

Contractor's review is for general compliance with the information provided in the Contract Documents and for general conformance with the design concept of the project. Any action noted herein is subject to the requirements set forth in the Contract Documents. Subcontractor and/or Supplier shall be responsible for all dimensions and techniques of construction; the coordination of Subcontractor's work with that of all other trades; and the performance of Subcontractor's work in accordance with Contract Documents.

Project #: 22-024

Submittal #: 28 31 11-1

Date: 12/22/2022

By: Isaac Leon



- ☒ Reviewed no exceptions.
- ☐ Make corrections noted; resubmittal not required.
- ☐ Make corrections noted; revise and resubmit indicated items only.
- ☐ Revise and resubmit entire submittal.
- ☐ Reviewed for coordination/information only; refer to comments if any.

Review of this submittal is only for general conformance with the design concept of the project and-for general compliance with those portions of the Contract Documents prepared by Smith & Boucher. Notes, corrections or comments made on the submittals during this review do not relieve the Contractor from responsibility for: Compliance with the requirements of the plans and specifications; Dimensions to be confirmed and correlated at the jobsite; Information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; Coordination of the Work with that of all other trades; Assemblies of which a specific reviewed item is a component; and performance of all work in a safe and satisfactory manner.

Received: 12/22/2022 12:18:52 PM

Returned: 12.27.2022 By: Bruce Lee, PE












BY

DATE

COPIES TO

**2911 NE INDEPENDENCE AVE.
LEE'S SUMMIT, MO 64064**

1. INSTALLATION SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE OR LOCAL LAWS, REGULATIONS, CODES, AND SPECIFICATIONS. THIS SYSTEM SHALL BE IN STRICT CONFORMANCE WITH THESE DRAWINGS; NFPA 72, 2019 EDITION, NFPA 70, 2017 EDITION, AND AHJ.
2. WHERE CONDUCTORS ARE RUN IN CONDUIT, USE ONLY APPROVED CABLE WITHIN RACEWAYS, PIPES, OR CONDUITS. ALL SHIELDED WIRE MUST BE CONTINUOUS THROUGHOUT CIRCUIT, ALL SHIELDS SHALL BE ISOLATED FROM GROUND, ALL SHIELDS SHALL TERMINATE AT THE FIRE ALARM CONTROL PANEL (FACP) ONLY.
3. PER NFPA2019, 17.7.1.12 - WHERE DETECTORS ARE INSTALLED FOR SIGNAL INITIATION DURING CONSTRUCTION, THEY SHALL BE CLEANED AND VERIFIED TO BE OPERATING IN ACCORDANCE WITH THE LISTED SENSITIVITY, OR THEY SHALL BE REPLACED PRIOR TO THE FINAL COMMISSIONING OF THE SYSTEM. WHERE DETECTORS ARE INSTALLED BUT NOT OPERATIONAL DURING CONSTRUCTION, THEY SHALL BE PROTECTED FROM CONSTRUCTION DEBRIS, DUST, DIRT, AND DAMAGE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND VERIFIED TO BE OPERATING IN ACCORDANCE WITH THE LISTED SENSITIVITY, OR THEY SHALL BE REPLACED PRIOR TO THE FINAL COMMISSIONING OF THE SYSTEM. WHERE DETECTION IS NOT REQUIRED DURING CONSTRUCTION, DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER ALL OTHER CONSTRUCTION TRADES HAVE COMPLETED CLEANUP.
4. ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, OPENS OR GROUNDS.
5. A STAMPED SET OF APPROVED FIRE ALARM DRAWINGS SHALL BE AT THE JOB SITE AND SHALL BE USED FOR INSTALLATION.
6. THE POWER CIRCUIT TO THE FIRE ALARM CONTROL PANEL AND THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED CIRCUIT BREAKER, SHALL HAVE RED MARKING, LOCK ON PROVISION, AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL" THE LOCATION OF THE CIRCUIT BREAKER SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL PANEL.

DEVICE LEGEND					
SYMBOL	DESCRIPTION	MANUFACTURER	PART NO	QTY	BOX
	FIRE ALARM CONTROL PANEL, ADDRESSABLE, SK PROTOCOL	SILENT KNIGHT	6808 (SK)	1	MANUFACTURER
	ANNUNCIATOR	SILENT KNIGHT	RA-5860R	1	MANUFACTURER
	ADDRESSABLE MANUAL PULL STATION, DOUBLE-ACTION	SILENT KNIGHT	SK-PULL-DA	1	SINGLE GANG
	ADDRESSABLE MONITOR MODULE	SILENT KNIGHT	SK-MONITOR	9	2 1/8" DEEP 4 SQUARE
 D	ADDRESSABLE DUAL MONITOR MODULE	SILENT KNIGHT	SK-MONITOR-2	1	2 1/8" DEEP 4 SQUARE
	ADDRESSABLE RELAY MODULE	SILENT KNIGHT	SK-RELAY	9	2 1/8" DEEP 4 SQUARE
	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	SILENT KNIGHT	SK-PHOTO-W	2	SINGLE GANG OR OCTAGON
 WP	2-WIRE HORN STROBE, STANDARD CD, OUTDOOR, PLAIN	SYSTEM SENSOR	P2RK-P	1	MANUFACTURER
	2-WIRE, HORN STROBE, WHITE	SYSTEM SENSOR	P2WL	8	SINGLE GANG
 C	2-WIRE, HORN STROBE, WHITE	SYSTEM SENSOR	PC2WL	13	SINGLE GANG
	STROBE, WHITE	SYSTEM SENSOR	SWL	3	SINGLE GANG

FA001 COVER SHEET
FA101 FLOOR PLAN
FA201 CALCULATIONS & RISER
FA202 WIRING TYPICALS

CABLE AND WIRE LEGEND				
LABEL	PART NO	AWG	RESISTANCE (Ω KFT)	DESCRIPTION
SBUS	18/2 FPLP/R (RS-485)	18	7.77	2 COND. SOLID COPPER FPLP/R ANALOG UNSHIELDED
M	18/2 FPLP/R (SLC)	18	7.77	2 COND. SOLID COPPER FPLP/R ADDRESSABLE UNSHIELDED
V	14/2 FPLP/R (NAC)	14	3.07	2 COND. SOLID COPPER FPLP/R ANALOG UNSHIELDED


FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX										SYSTEM OUTPUTS																		
										FACP ANNUNCIATION				NOTIFICATION				REQUIRED FIRE SAFETY CONTROL										
SYSTEM INPUTS										ACTUATE COMMON ALARM SIGNAL INDICATOR ACTUATE AUDIBLE ALARM SIGNAL ACTUATE COMMON SUPERVISOR SIGNAL ACTUATE COMMON TROUBLE SIGNAL ACTUATE ZONE OR DEVICE ADDRESS SIGNAL ACTUATE GENERAL EVACUATION SIGNAL DISPLAY CHANGE OF STATUS TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION RELEASE MAGNETICALLY HELD DOORS RECALL ELEVATOR TO RECALL FLOOR ACTUATE WARNING TO ALTERNATE RECALL FLOOR UNLOCK EXITS AND CONTROL DOORS SHUT DOWN RESPECTIVE AIR HANDLING EQUIPMENT ACTUATE FLOOR PRESSURIZATION ACTUATE STAIRWELL PRESSURIZATION ACTUATE SMOKE EXHAUST																		
										A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
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	AREA SMOKE DETECTORS									●	●										●	●		●	●			7
8	HVAC AIR DUCT SMOKE DETECTORS											●	●										●					8
9	SPRINKLER TAMPER SWITCH											●	●															9
10	SPRINKLER WATER FLOW IN BUILDING									●	●																	10
11	-																											11
12	-																											12
13	-																											13
14	-																											14
15	-																											15
16	-																											16
17	-																											17
18	-																											18
19	-																											19
20	-																											20
21	-																											21
22	-																											22
23	-																											23
24	-																											24
25	-																											25
26	-																											26
27	-																											27

**K1 SPEED
LEE'S SUMMIT**

 **torgeson**
ELECTRIC

100% EMPLOYEE OWNED

3545 SW 6TH AVE - TOPEKA KS 66606
PHONE 785.233.2213
WWW.TORGESONELECTRIC.COM



pkmr
ENGINEERS

PEARSON KENT MCKINLEY RAAF ENGINEERS LLC
2933 SW WOODSIDE DR., SUITE C TOPEKA, KS 66614
785.273.2447 WWW.PKMRENG.COM

[illegible]

PROJECT NUMBER	
03629.00.T	
DESIGNER	DRAFTER
AMK	AMK
SHEET TITLE	

SHEET NUMBER

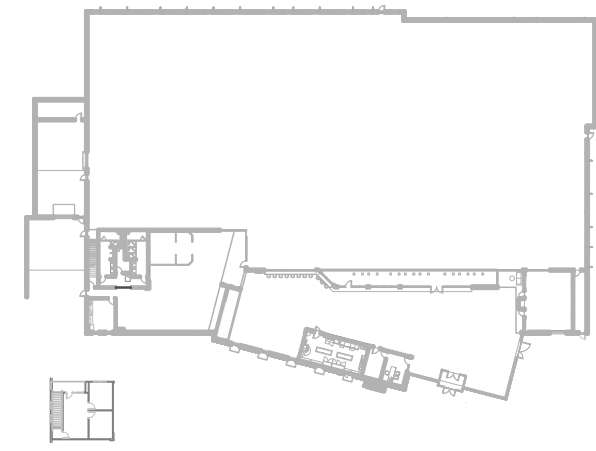
FA001

**K1 SPEED
LEE'S SUMMIT**2911 NE INDEPENDENCE AVE.
LEE'S SUMMIT, MO 64064**torgeson**
ELECTRIC
100% EMPLOYEE OWNED
3545 SW 6TH AVE - TOPEKA KS 66606
PHONE 785.233.2213
WWW.TORGESONELECTRIC.COM**pkmr**
ENGINEERS
PEARSON KENT MCKINLEY RAUF ENGINEERS LLC
2933 SW WOODSIDE DR., SUITE C TOPEKA, KS 66614
785.273.2447 WWW.PKMRENG.COM

ISSUE/REVISION

NO.	DATE	DISCUSSION
--	11/29/2022	ORIGINAL ISSUE

KEY PLAN



PROJECT NUMBER

03629.00.T

DESIGNER

DRAFTER

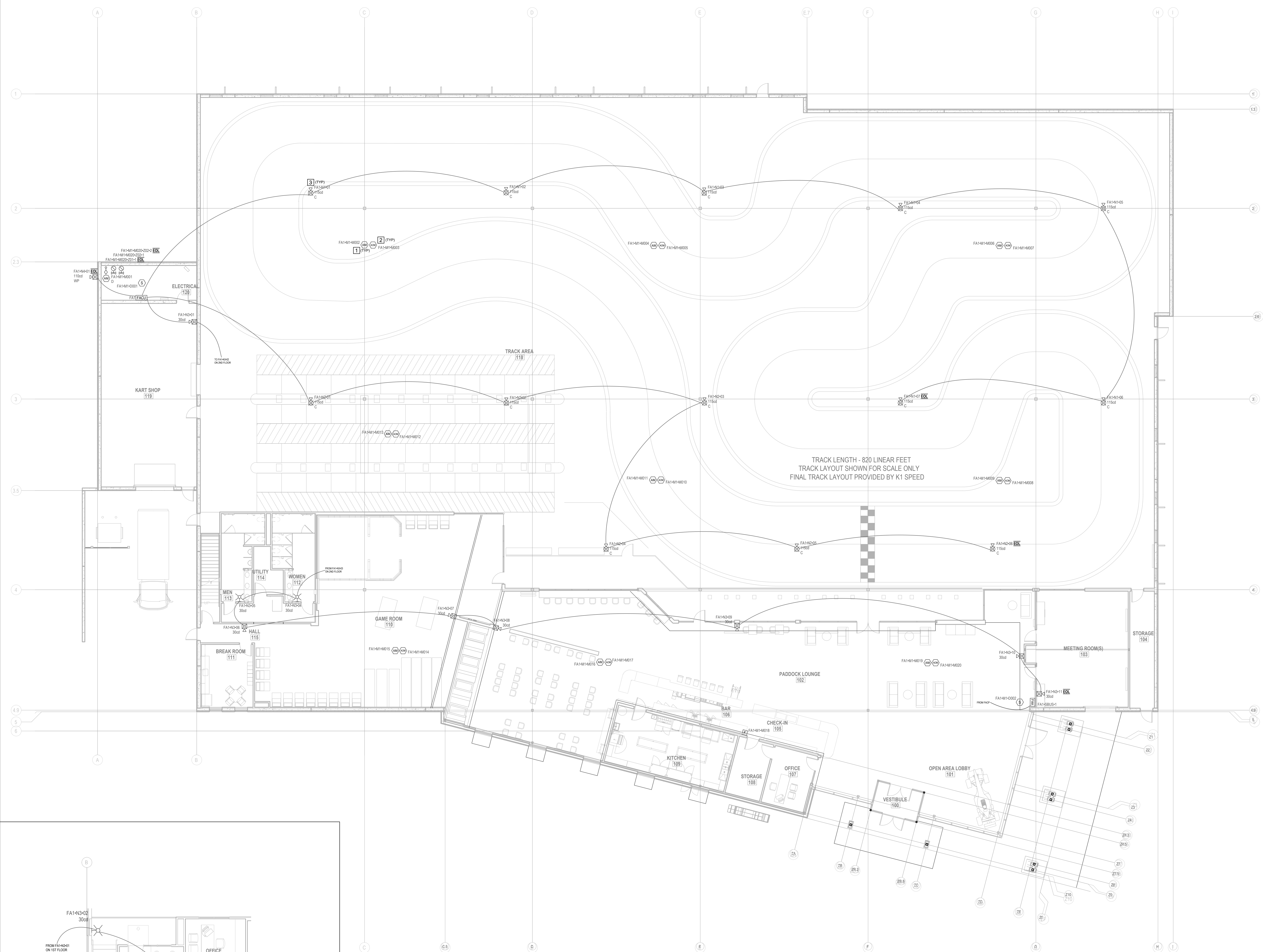
AMK

AMK

SHEET TITLE

**FIRE ALARM
FLOOR PLAN**

SHEET NUMBER

FA101**FIRE ALARM - FIRST FLOOR**

3/32" = 1'-0"

1**GENERAL SHEET NOTES:**

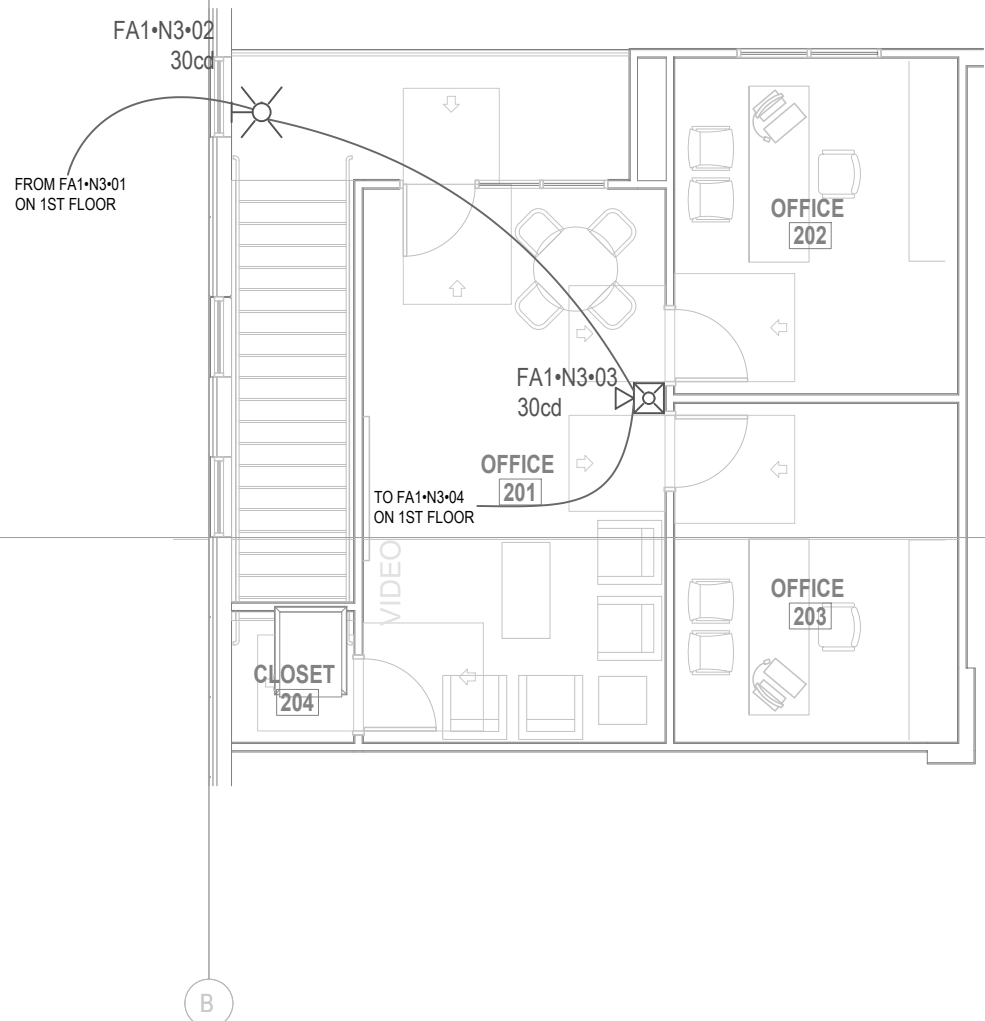
1. FIELD VERIFY LOCATIONS OF SPRINKLER DEVICES TO BE MONITORED.
2. CONDUIT TO BE RAN IN EXPOSED AREAS AND IN WALL.
3. WHERE CABLE IS TO BE EXPOSED. INSTALL AT RIGHT ANGLES WITH THE BUILDING. KEEP RUNS NEAT AND ADEQUATELY STRAPPED.











KEY SHEET NOTES:

- 1 MONITOR MODULE TO MONITOR THE FACTORY MOUNTED DUCT DETECTOR IN RTU. MOUNT IN RTU, TYPICAL.
- 2 RELAY MODULE TO PERFORM SHUTDOWN ACTION IN THE EVENT OF GENERAL FIRE ALARM OR DUCT DETECTOR ACTIVATION. MOUNT IN RTU, TYPICAL.
- 3 INSTALL BACK BOXES FOR NOTIFICATION DEVICE IN EXPOSED CEILING ON BOTTOM OF JOIST, TYPICAL.

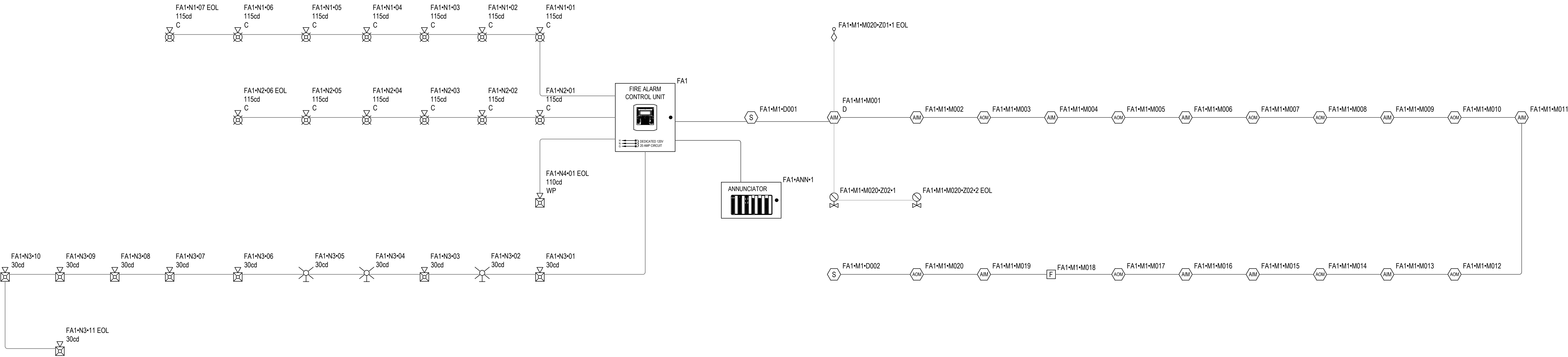
**FIRE ALARM - SECOND FLOOR**

1/8" = 1'-0"

2

PANEL FA1 (6808 (SK)) BATTERY CALCULATION								
(SECONDARY POWER SOURCE REQUIREMENTS)								
					STANDBY CURRENT (AMPS)		SECONDARY ALARM CURRENT (AMPS)	
PANEL COMPONENTS		QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL
		1	6808 MAIN BOARD	FIRE ALARM CONTROL PANEL MAIN BOARD SK PROTOCOL	0.17	0.17	0.365	0.365
CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
FA1-ANN		1	RA-5860R	ANNUNCIATOR	0.02	0.02	0.025	0.025
FA1-M1		9	SK-MONITOR	ADDRESSABLE MONITOR MODULE	0.000375	0.003375	0.000375	0.003375
		1	SK-MONITOR-2	ADDRESSABLE DUAL MONITOR MODULE	0.00075	0.00075	0.00075	0.00075
		2	SK-PHOTO-W	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	0.0002	0.0004	0.0045	0.009
		1	SK-PULL-DA	ADDRESSABLE MANUAL PULL STATION, DOUBLE-ACTION	0.000375	0.000375	0.000375	0.000375
		9	SK-RELAY	ADDRESSABLE RELAY MODULE	0.000255	0.002295	0.000255	0.002295
FA1-N1		7	PC2WL	2-Wire, Horn Strobe, White 115cd	0	0	0.187	1.309
FA1-N2		6	PC2WL	2-Wire, Horn Strobe, White 115cd	0	0	0.187	1.122
FA1-N3		8	P2WL	2-Wire, Horn Strobe, White 30cd	0	0	0.107	0.856
		3	SWL	Strobe, White 30cd	0	0	0.063	0.189
FA1-N4		1	P2RK-P	2-Wire Horn Strobe, Standard cd, Outdoor, Plain 110cd	0	0	0.212	0.212
					TOTAL STANDBY (A)	0.197195	TOTAL ALARM (A)	4.093795
					REQUIRED STANDBY TIME = 24 HOURS			
					REQUIRED ALARM TIME = 5 MINUTES			
SECONDARY STANDBY LOAD (A)				0.197195	24		4.73	
SECONDARY ALARM LOAD (A)				4.093795	0.08		0.34	
STANDBY AND ALARM SUBTOTAL (AMP HOURS)						5.07		
DERATING FACTOR						1.2		
SECONDARY LOAD REQUIREMENTS (AMP HOURS)						6.09		
PROVIDE (2) 12V 7AH BATTERIES								
*BATTERY BOX SIZE CAPACITY NOT SPECIFIED. REFER TO MANUFACTURER DOCUMENTATION.								

FA1 M1 DEVICE SCHEDULE				CIRCUIT SETTINGS		TOTALS	
				Max. Circuit Length (Ft)	10000	Total Circuit Length (Ft)	1215
				Max. SLC SK MODULES:	159	Total Used SLC SK MODULES:	20
				Max. SLC SK SENSORS:	159	Total Used SLC SK SENSORS:	2
Circuit Wiring Properties: 'M' 18/2 FPLP/R (SLC) 18 AWG, 2 Cond. Solid Copper FPLP/R Addressable Unshielded							
Distance measured using drawn segment lengths with 10.00 % additional length calculated							
Device Label	Part No.	Building	Floor	Location	Description	Dist. From Previous (Ft)	
FA1-M1-D001	SK-PHOTO-W				ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	5	
FA1-M1-M001	SK-MONITOR				ADDRESSABLE MONITOR MODULE	75	
FA1-M1-M002	SK-RELAY				ADDRESSABLE RELAY MODULE	2	
FA1-M1-M003	SK-MONITOR				ADDRESSABLE MONITOR MODULE	81	
FA1-M1-M004	SK-RELAY				ADDRESSABLE RELAY MODULE	2	
FA1-M1-M005	SK-MONITOR				ADDRESSABLE MONITOR MODULE	97	
FA1-M1-M006	SK-RELAY				ADDRESSABLE RELAY MODULE	2	
FA1-M1-M007	SK-RELAY				ADDRESSABLE RELAY MODULE	68	
FA1-M1-M008	SK-MONITOR				ADDRESSABLE MONITOR MODULE	2	
FA1-M1-M009	SK-RELAY				ADDRESSABLE RELAY MODULE	98	
FA1-M1-M010	SK-MONITOR				ADDRESSABLE MONITOR MODULE	2	
FA1-M1-M011	SK-RELAY				ADDRESSABLE RELAY MODULE	87	
FA1-M1-M012	SK-MONITOR				ADDRESSABLE MONITOR MODULE	2	
FA1-M1-M013	SK-MONITOR				ADDRESSABLE MONITOR MODULE	65	
FA1-M1-M014	SK-RELAY				ADDRESSABLE RELAY MODULE	2	
FA1-M1-M015	SK-MONITOR				ADDRESSABLE MONITOR MODULE	60	
FA1-M1-M016	SK-RELAY				ADDRESSABLE RELAY MODULE	2	
FA1-M1-M017	SK-PULL-DA				ADDRESSABLE MANUAL PULL STATION, DOUBLE-ACTION	60	
FA1-M1-M018	SK-MONITOR				ADDRESSABLE MONITOR MODULE	74	
FA1-M1-M019	SK-RELAY				ADDRESSABLE RELAY MODULE	2	
FA1-M1-D002	SK-PHOTO-W				ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	36	
FA1-M1-M020	SK-MONITOR-2				ADDRESSABLE DUAL MONITOR MODULE	388	




PROJECT

K1 SPEED
LEE'S SUMMIT

2911 NE INDEPENDENCE AVE.
LEE'S SUMMIT, MO 64064


100% EMPLOYEE OWNED
3545 SW 6TH AVE - TOPEKA KS 66606
PHONE 785.233.2213
WWW.TORGESONELECTRIC.COM


PEARSON KENT MCKINLEY RAUF ENGINEERS LLC
2933 SW WOODSIDE DR., SUITE C TOPEKA, KS 66614
785.273.2447 WWW.PKMRENG.COM



ISSUE/REVISION

NO.	DATE	DISCRPTION
--	11/29/2022	ORIGINAL ISSUE

KEY PLAN

PROJECT NUMBER

03629.00.T

DESIGNER

AMK

DRAFTER

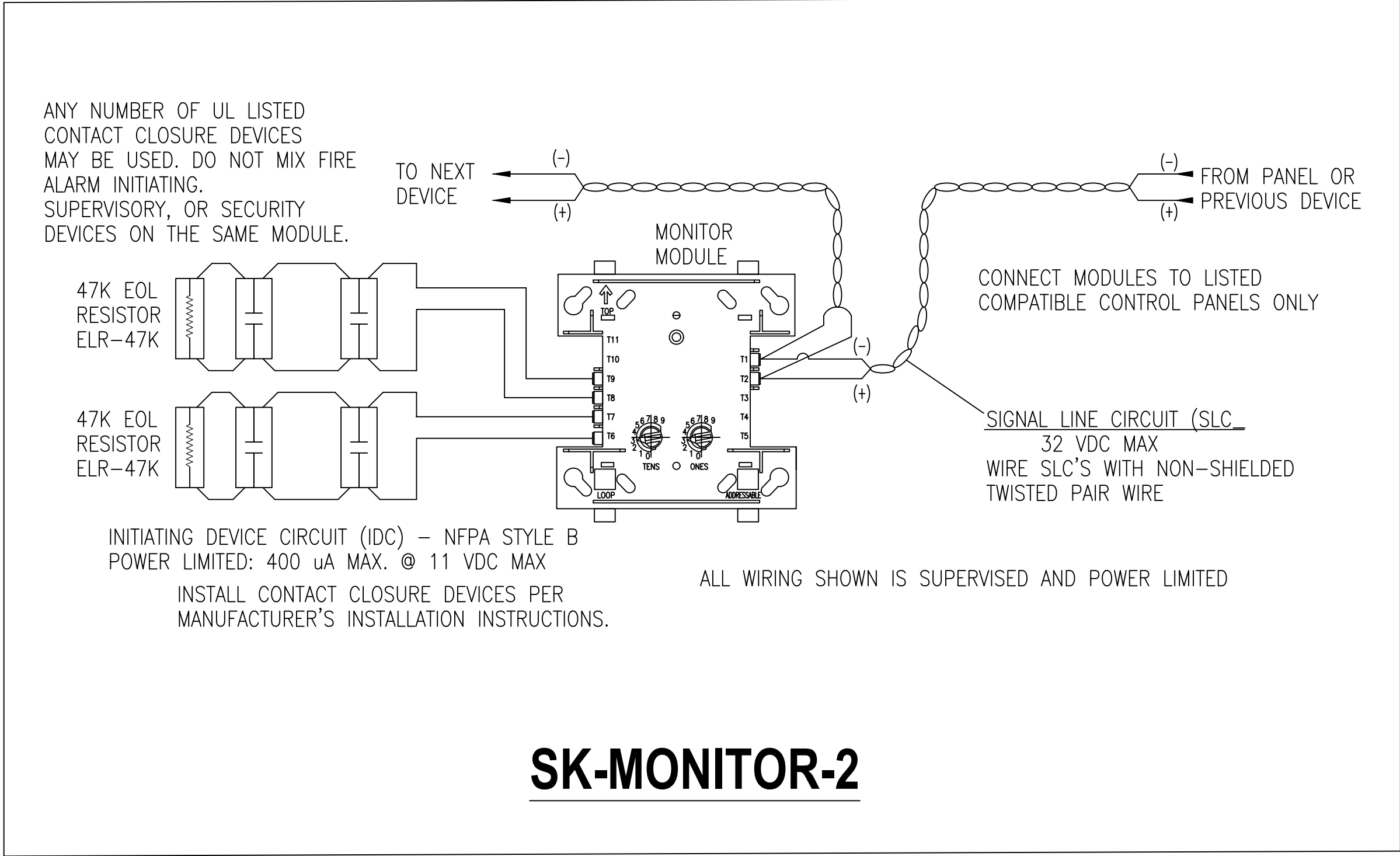
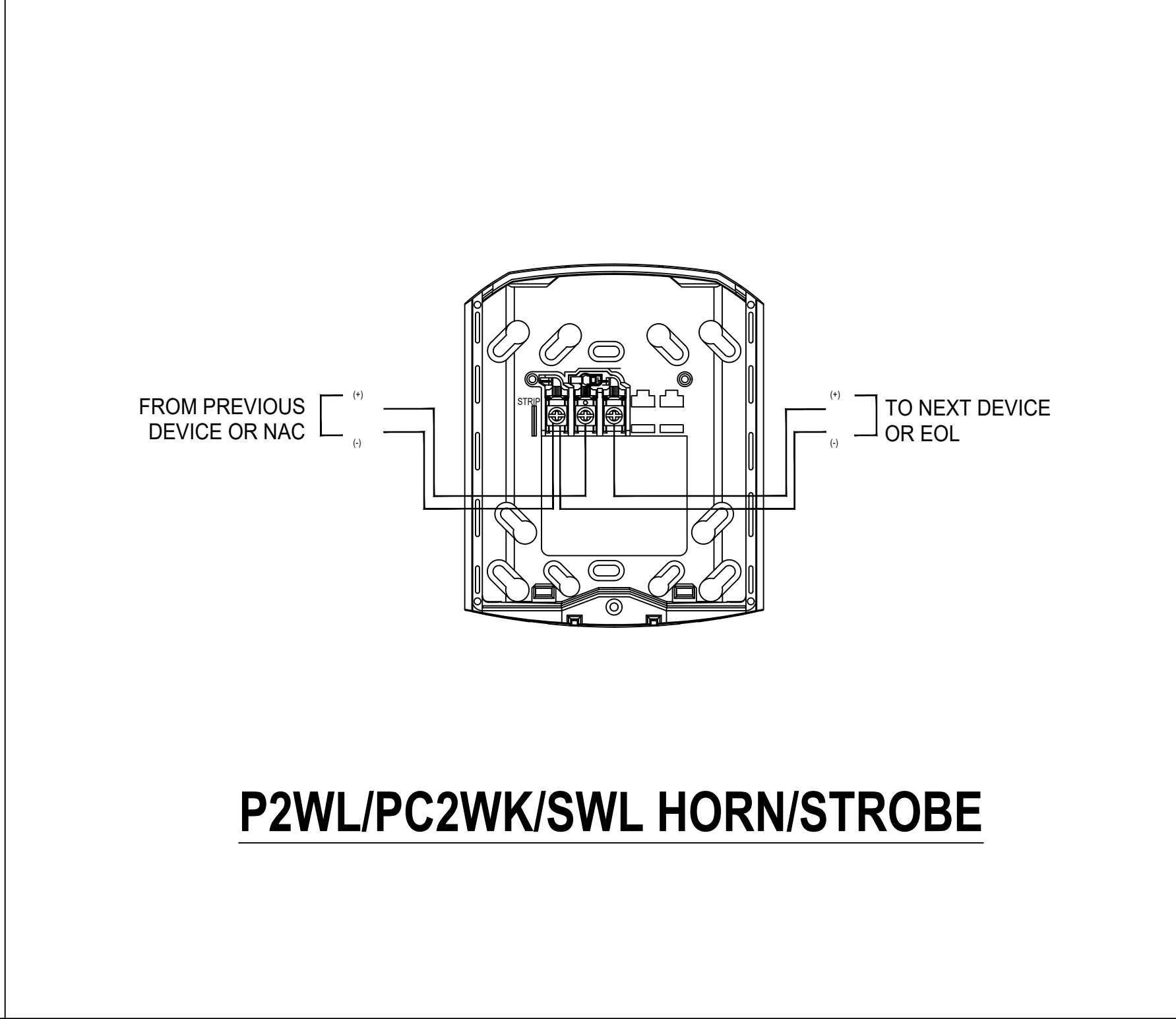
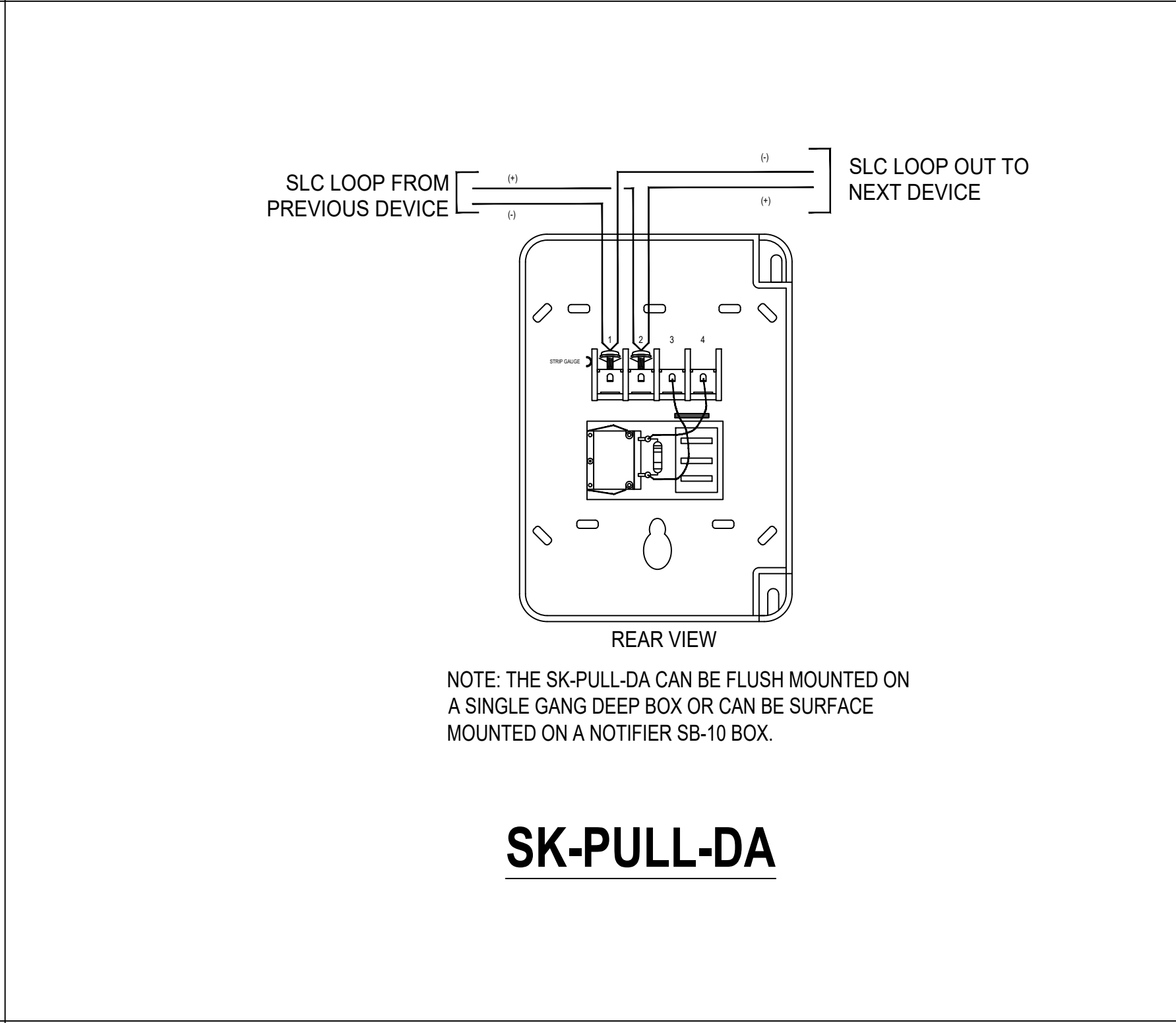
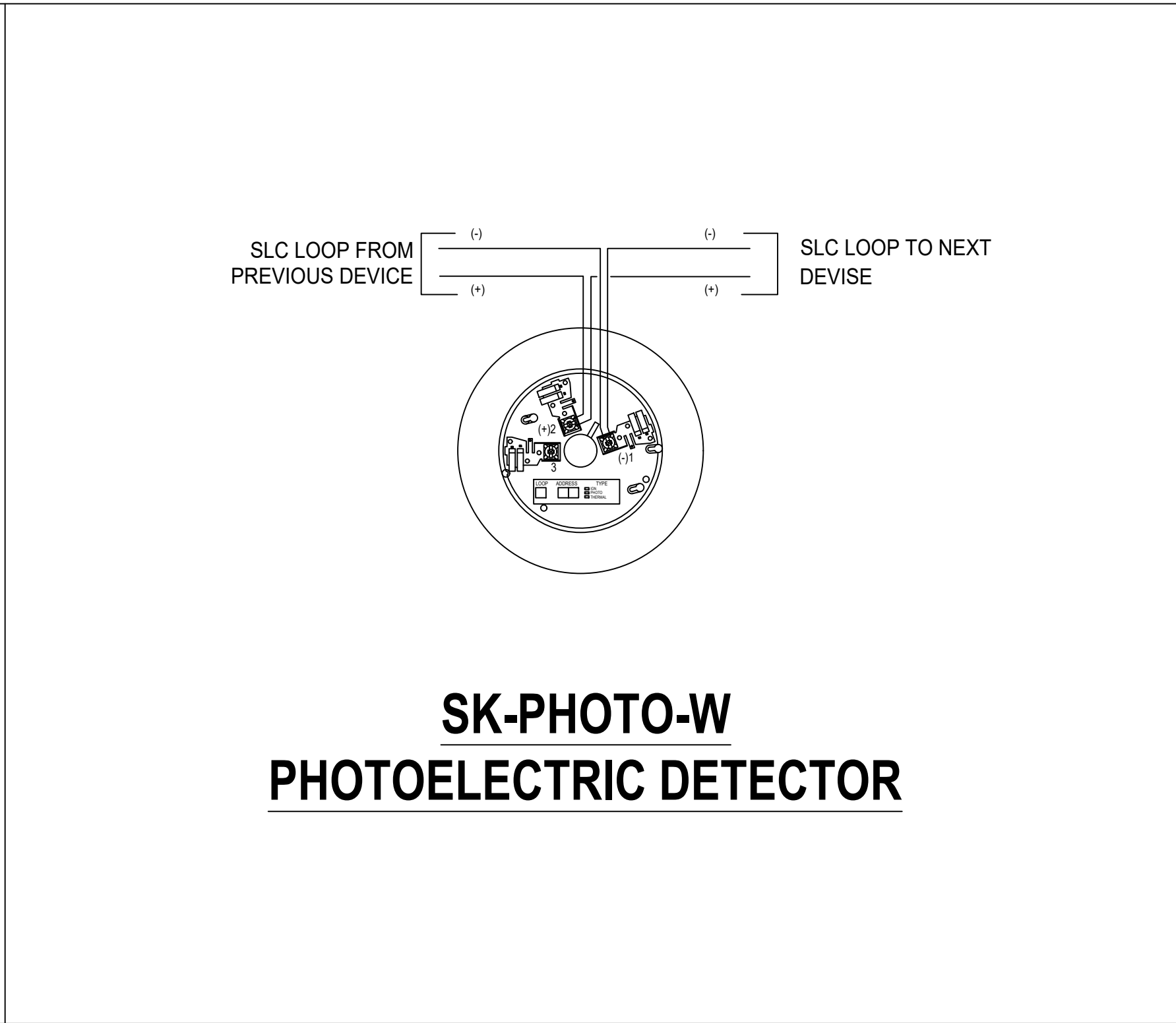
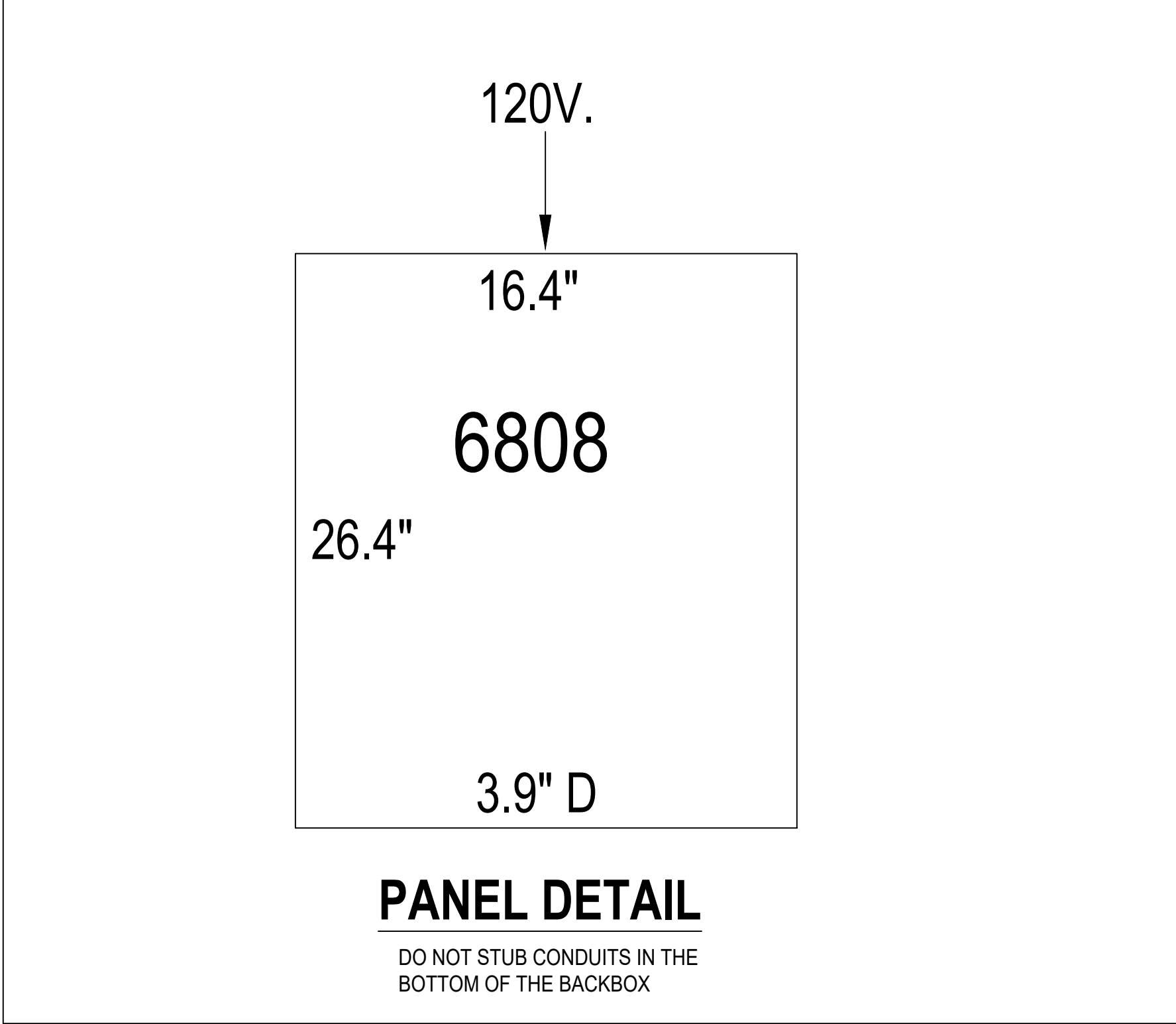
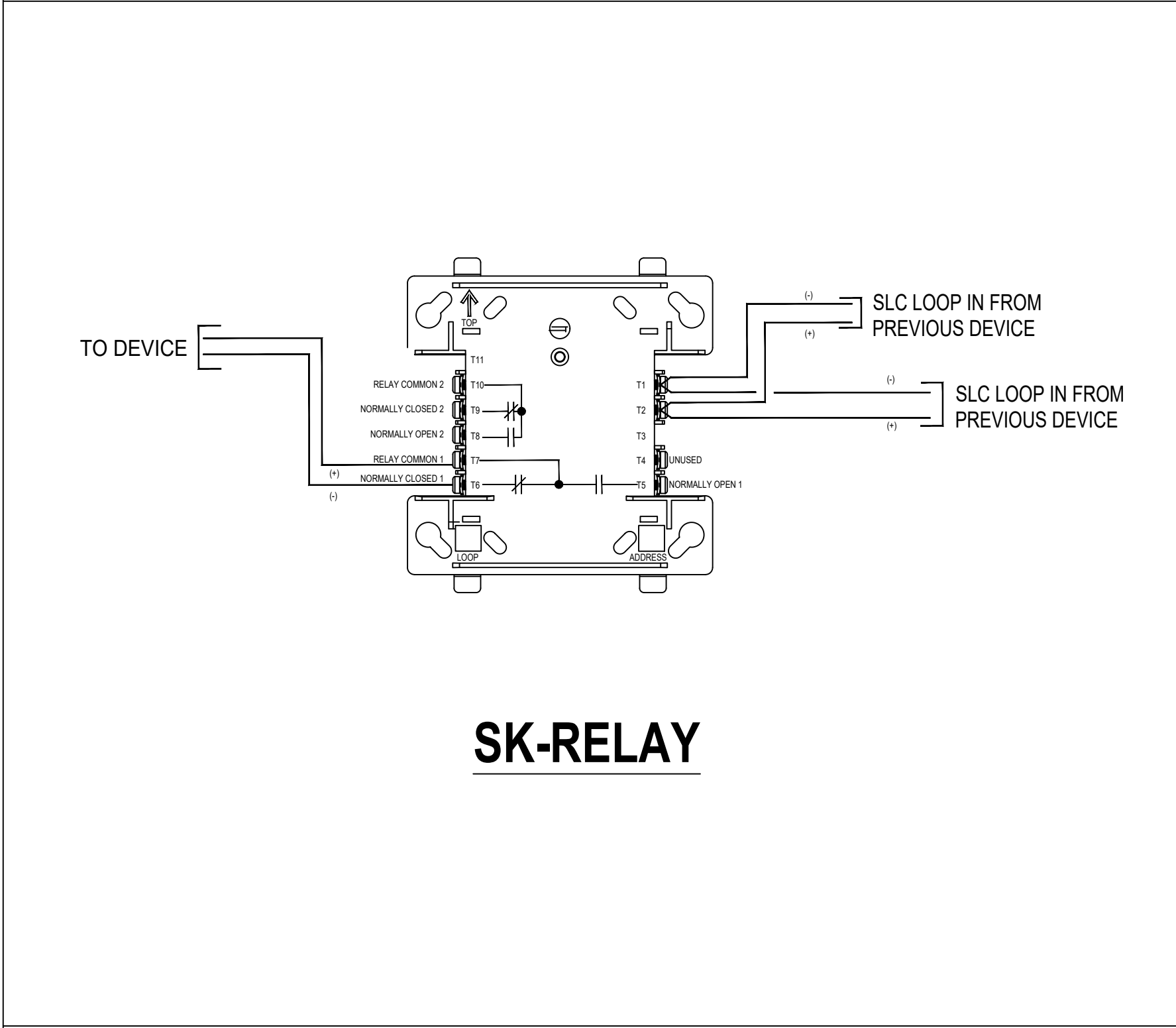
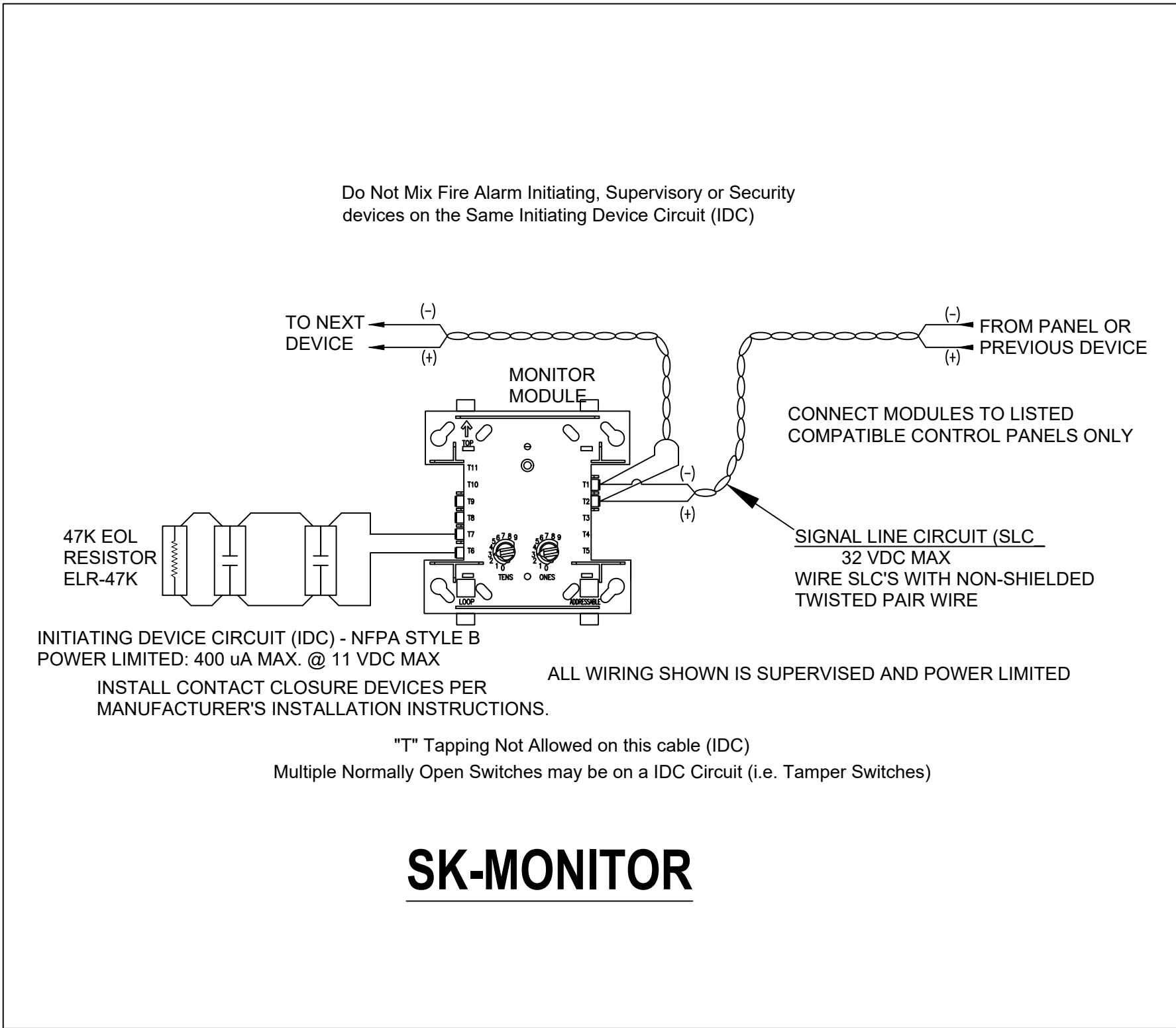
AMK

SHEET TITLE

FIRE ALARM
BATTERY CALC &
RISER DIAGRAM

SHEET NUMBER

FA201



PROJECT

**K1 SPEED
LEE'S SUMMIT**

**2911 NE INDEPENDENCE AVE.
LEE'S SUMMIT, MO 64064**



100% EMPLOYEE OWNED
3545 SW 6TH AVE - TOPEKA KS 66606
PHONE 785.233.2213
WWW.TORGESONELECTRIC.COM



PEARSON KENT MCKINLEY RAUF ENGINEERS LLC
2933 SW WOODSIDE DR., SUITE C TOPEKA, KS 66614
785.273.2447 WWW.PKMRENG.COM



ISSUE/REVISION

NO.	DATE	DISCRIPTION
--	11/29/2022	ORIGINAL ISSUE

KEY PLAN

PROJECT NUMBER

03629.00.T

DESIGNER

AMK

DRAFTER

AMK

SHEET TITLE

**FIRE ALARM
WIRING TYPICALS**

SHEET NUMBER

FA202