

FIRE ALARM GENERAL NOTES	
NOTE#	NOTE TEXT
1.	ALL CIRCUIT POLARITY SHALL BE MAINTAINED.
2.	SHIELD CONTINUITY SHALL BE MAINTAINED THROUGH OUT ALL SHIELDED CIRCUITS. SHIELDS SHALL BE GROUNDED AT ONLY ONE POINT (THE EQUIPMENT HEAD END UNLESS NOTED OTHERWISE).
3.	ALL CIRCUITS SHALL BE FREE OF GROUNDS, WIRE TO WIRE SHORTS, AND OPENS.
4.	NOTIFICATION APPLIANCE CIRCUITS (NAC) & INITIATING DEVICE CIRCUITS (IDC) ARE SUPERVISED. NO PARALLEL BRANCHING (TEE-TAPPING) SHALL BE PERMITTED. NON-STYLE 6 & 7 SIGNALING LINE CIRCUITS (SLC) ALLOW PARALLEL BRANCHING (TEE-TAPPING) AT DEVICES AND RISER BOXES ONLY.
5.	ALL FIRE ALARM CONDUIT SHALL BE SIZED TO MEET OR EXCEED THE NEC MINIMUM REQUIREMENTS. ALL FIRE ALARM CONDUIT SIZE SHALL BE 3/4" MINIMUM UNLESS SHOWN OTHERWISE. STUB-UPS TO INDIVIDUAL DEVICES ALLOWED TO BE IN 1/2".
6.	INSTALLATION MATERIALS (I.E. CONDUIT, FITTINGS, HANGERS, STANDARD BOXES, ETC.) ARE NOT PROVIDED BY MIDWEST ALARM SERVICES.
7.	ON OPEN WIRE INSTALLATIONS CONDUIT SHALL BE PROVIDED BY OTHERS THROUGH ALL INACCESSIBLE AREAS (I.E. ABOVE HARD CEILINGS, STUB-UPS THROUGH ENCLOSED WALLS, ECT.) AND IN ALL EXPOSED AREAS (I.E. MECHANICAL ROOMS, ELECTRICAL ROOMS, ETC.).
8.	MANUAL PULL BOXES SHALL BE MOUNTED 48" AFF TO THE ACTUATING HANDLE.
9.	WALL-MOUNTED AUDIBLE/VISUAL & VISUAL ONLY DEVICES SHALL BE MOUNTED 80" AFF TO THE BOTTOM OF THE DEVICE OR 6" FROM THE CEILING TO THE TOP OF THE DEVICE WHICHEVER IS LOWER.
10.	INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH THE NATIONAL ELECTRIC CODE, NFPA CODES, LOCAL CODES, AUTHORITIES HAVING JURISDICTION AND ALL OF THE MANUFACTURERS REQUIREMENTS.
11.	ALL FIRE ALARM CONTROL RELAYS SHALL BE MOUNTED WITHIN 3' OF THE DEVICES THEY CONTROL. ALL RELAY CONTROL CIRCUITS SHALL BE SUPERVISED.
12.	ALL FIRE ALARM JUNCTION BOX COVERS SHALL BE PAINTED RED OR LABELED FOR DISTINCT IDENTIFICATION.
13.	ALL FIRE ALARM PANELS & EQUIPMENT CABINETS REQUIRE A DEDICATED 120VAC CIRCUIT FOR PRIMARY POWER. FIRE ALARM AC POWER CIRCUITS SHALL BE PERMANENTLY IDENTIFIED AT THE DISTRIBUTION PANEL AND INSIDE THE FIRE EQUIPMENT CABINETS SERVED.

CODE REFERENCES		
#	REFERENCED CODE	YEAR
1	International Building Code (IBC)	2018
2	International Fire Code (IFC)	2018
3	NFPA 70 National Electrical Code	2017
4	NFPA 72 National Fire Alarm Code	2016
5	NFPA 90A Standard on AC & Ventilating	2018

AUTHORITY HAVING JURISDICTION	
City of Lee's Summit, MO	

PROJECT NARRATIVE	
This project is a new apartment building complex including a clubhouse. All buildings are fully sprinklered per NFPA 13R. An addressible fire alarm system is being provided in each building with horn/strobe notification.	
Clubhouse According to contract documents, the clubhouse building is occupancy group B and S-1 with areas of R-3 and A-3. None of the five AHUs are over 2,000 CFM to require detection and shutdown. Single-Station smoke and CO detectors for the R-3 area are provided by others.	
Apartment Units According to contract documents, the apartment buildings are primary occupancy group R-2 with areas of A-3. Single-Station smoke and CO detectors for the R-2 area are provided by others. CO detection on bldg system is provided in the 1st floor corridor at communicating openings to the attached garages per IFC 915.1.5 exception #4. Wiring provisions for building notification in sleeping areas is provided and included in circuit calculations per code. None of the six AHUs are over 2,000 CFM to require detection and shutdown.	
The Clubhouse building was submitted earlier. Sheets grayed out in the drawing index are not included this set.	

RESIDENCES AT BLACKWELL

US 50 Hwy at Blackwell
Lee's Summit, MO 64063
Fire Alarm System 28300

RELEASED FOR CONSTRUCTION
As Noted on Plan Review

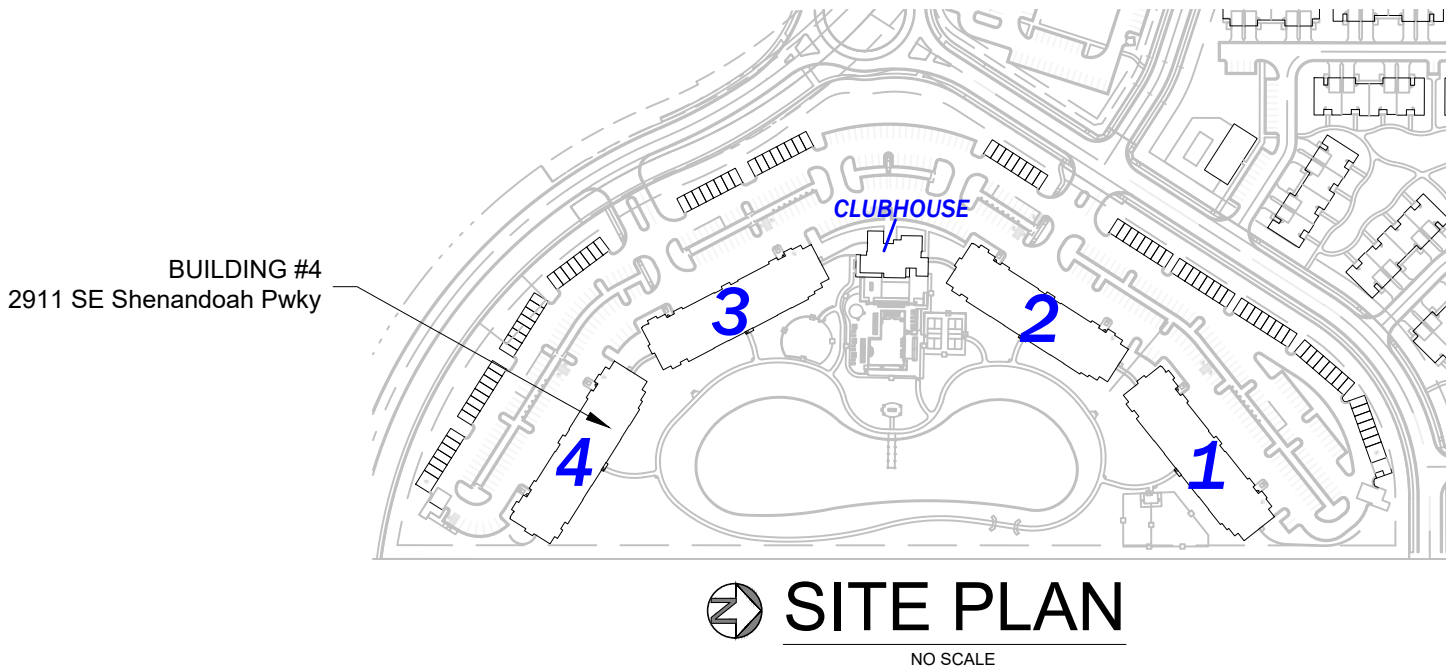
Lee's Summit Fire Department
Lee's Summit, Missouri

04/28/2025

Apartment Bldg #4 - 2911 SE Shenandoah Pwky

DRAWING INDEX:

Sheet:	Title:	Revision #:	Date Issued:
FA-0	COVER SHEET, NOTES, CALCULATIONS FOR CLUBHOUSE		05.30.2024
FA-101	FIRE ALARM FLOOR PLAN - CLUBHOUSE		05.30.2024
FA-102	DEVICE MOUNTING & WIRING DETAILS		05.30.2024
FA-103	PANEL MOUNTING & WIRING, RISER DIAGRAM - CLUBHSE		05.30.2024
FA-201	FIRE ALARM FLOOR PLAN - APARTMENT LL, 1ST LEVEL	1	12.09.2024
FA-202	FIRE ALARM FLOOR PLAN - APARTMENT 2ND & 3RD LEVEL	1	12.09.2024
FA-203	FIRE ALARM FLOOR PLAN - APT. 4TH LVL, RISER	1	12.09.2024
FA-204	CALCULATIONS & PANEL MOUNTING - APARTMENT	1	01.17.2025



	PRIORITY		SYSTEM OUTPUTS									
	ALARM	SUPERVISORY TROUBLE	REPORT TO FIRE ALARM CONTROL PANEL	TRANSMIT SIGNAL TO SUPERVISING STATION	ACTIVATE GENERAL FIRE ALARM BUILDING NOTIFICATION APPLIANCES	SHUTDOWN AIR CURTAIN AT ELEVATOR	ACTIVATE AIR CURTAIN AT ELEVATOR	SOUND LOCAL ALARM AT ELEVATOR	ELEVATOR RECALL - SEND TO PRIMARY FLOOR	ELEVATOR RECALL - SEND TO ALTERNATE FLOOR	ELEVATOR STUNT TRIP ACTIVATION	
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - OPEN	●	●	●	●	●	●	●	●	●	●	●	
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - SHORT	●	●	●	●	●	●	●	●	●	●	●	
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - GROUND	●	●	●	●	●	●	●	●	●	●	●	
FIRE ALARM CONTROL PANEL LOSS OF POWER		●	●	●	●	●	●	●	●	●	●	
FIRE ALARM CONTROL PANEL OTHER TROUBLE		●	●	●	●	●	●	●	●	●	●	
SPRINKLER WATERFLOW ALARM ACTIVATION	●	●	●	●	●	●	●	●	●	●	●	
MANUAL PULL STATION ACTIVATION	●	●	●	●	●	●	●	●	●	●	●	
SMOKE DETECTOR ACTIVATION	●	●	●	●	●	●	●	●	●	●	●	
SMOKE DETECTOR ACTIVATION - ELEVATOR LANDING PRIMARY FLR	●	●	●	●	●	●	●	●	●	●	●	
SMOKE DETECTOR ACTIVATION - ELEVATOR LANDING OTHER FLOORS	●	●	●	●	●	●	●	●	●	●	●	
HEAT DETECTOR - ELEVATOR SHAFT OR MACHINE ROOM	●	●	●	●	●	●	●	●	●	●	●	
DUCT SMOKE DETECTOR ACTIVATION	●	●	●	●	●	●	●	●	●	●	●	
SPRINKLER VALVE TAMPER SWITCH ACTIVATION	●	●	●	●	●	●	●	●	●	●	●	
CARBON MONOXIDE (CO) DETECTOR (APT. GARAGES ONLY)	●	●	●	●	●	●	●	●	●	●	●	

FIRE ALARM SEQUENCE OF OPERATIONS:
(Input/Output Matrix)

SYSTEM INPUTS												
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - OPEN												
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - SHORT												
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - GROUND												
FIRE ALARM CONTROL PANEL LOSS OF POWER												
FIRE ALARM CONTROL PANEL OTHER TROUBLE												
SPRINKLER WATERFLOW ALARM ACTIVATION												
MANUAL PULL STATION ACTIVATION												
SMOKE DETECTOR ACTIVATION												
SMOKE DETECTOR ACTIVATION - ELEVATOR LANDING PRIMARY FLR												
SMOKE DETECTOR ACTIVATION - ELEVATOR LANDING OTHER FLOORS												
HEAT DETECTOR - ELEVATOR SHAFT OR MACHINE ROOM												
DUCT SMOKE DETECTOR ACTIVATION												
SPRINKLER VALVE TAMPER SWITCH ACTIVATION												
CARBON MONOXIDE (CO) DETECTOR (APT. GARAGES ONLY)												

1. AC POWER LOSS REPORTED TO SUPERVISING STATION AFTER DELAY OF 30 MINUTES (PROGRAMMABLE).

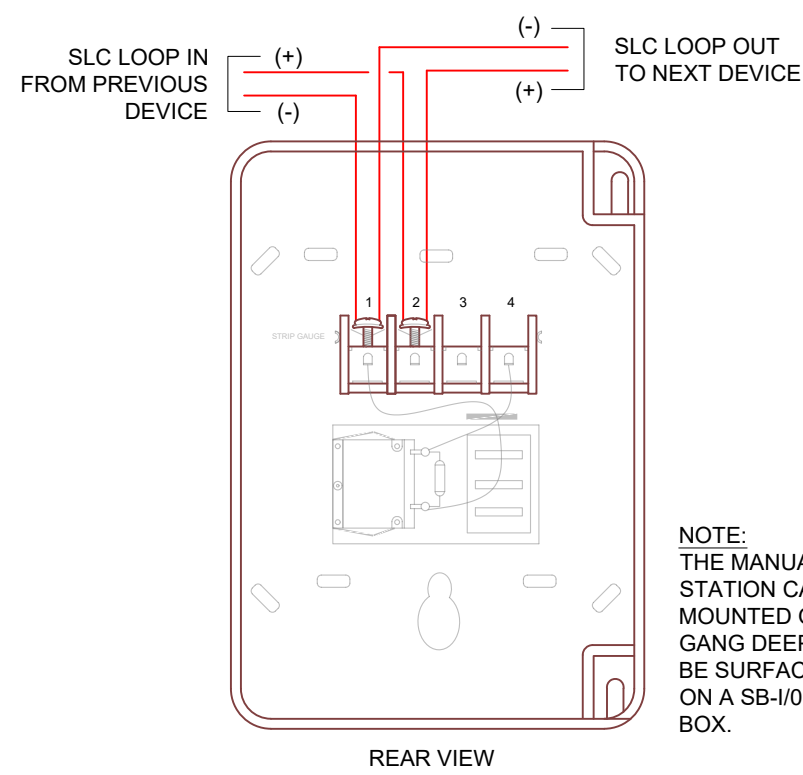
FIRE ALARM SYMBOLS LEGEND	
SYMBL	DESCRIPTION
[FACP]	NOTIFIER NFS-320 FIRE ALARM PANEL MOUNT PANEL AS SHOWN AT 72" AFF TO TOP OF BOX BACK BOX: INCLUDED.
[ANN]	NOTIFIER FDU-80 LCD ANNUNCIATOR, 80 CHAR. MOUNT AS SHOWN ON SHEET FA-102 BACK BOX: SINGLE GANG
[F]	NOTIFIER NBG-12LX ADDRESSABLE MANUAL PULL STATION SEE FA GENERAL NOTE 7 FOR MOUNTING HEIGHT BACK BOX: SINGLE GANG 1.875" DEEP MIN
[P]	NOTIFIER FSP-951 SMOKE DETECTOR (PHOTO) MOUNT ON B300-6 BASE, AS INDICATED BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP
[SS]	SINGLE-STATION SMOKE ALARM PROVIDED BY OTHERS, SHOWN FOR REFERENCE ONLY BACK BOX:
[CO SS]	SINGLE-STATION COMBO CO/SMOKE ALARM PROVIDED BY OTHERS, SHOWN FOR REFERENCE ONLY BACK BOX:
[P]	NOTIFIER FST-951 HEAT DETECTOR, 135F MOUNT ON B300-6 BASE, AS INDICATED BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP
[CO]	SYSTEM SENSOR CO1224TR CARBON MONOXIDE DETECTOR INCLUDE FPM-101 FOR ADDRESSABLE INTERFACE BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP
[M]	NOTIFIER FMM-1 ADDRESSABLE MONITOR MODULE MOUNT AS SHOWN ON PLANS BACK BOX: 4" SQUARE x 2-1/8" DEEP
[M]	NOTIFIER FDM-1 DUAL ADDRESSABLE MONITOR MODULE MOUNT AS SHOWN ON PLANS BACK BOX: 4" SQUARE x 2-1/8" DEEP
[M]	NOTIFIER FCM-1 ADDRESSABLE CONTROL MODULE MOUNT WITHIN 3' OF CONTROLLED DEVICE BACK BOX: 4" SQUARE x 2-1/8" DEEP
[M]	NOTIFIER FRM-1 ADDRESSABLE RELAY MODULE MOUNT WITHIN 3' OF CONTROLLED DEVICE BACK BOX: 4" SQUARE x 2-1/8" DEEP
[S]	SYSTEM SENSOR SWLED STROBE, WALL MOUNT, WHITE FOR MOUNTING HEIGHT SEE FA GENERAL NOTE 9. BACK BOX: SINGLE GANG x 1.875" DEEP MIN.
[S]	SYSTEM SENSOR SCWLED STROBE, CEILING MOUNT, WHITE MOUNT IN DROP CEILING TILE OR BOTTOM OF CLNG TRUSS BACK BOX: SINGLE GANG x 1.875" DEEP MIN.
[S]	SYSTEM SENSOR P2WLED HORN/STROBE, WALL MOUNT, WHITE FOR MOUNTING HEIGHT SEE FA GENERAL NOTE 9. BACK BOX: SINGLE GANG x 1.875" DEEP MIN.
[S]	SYSTEM SENSOR HWL-LF LOW FREQ. HORN/STRB, WALL, WHT FOR MOUNTING HEIGHT SEE FA GENERAL NOTE 9. BACK BOX: SINGLE GANG x 1.875" DEEP MIN.
[S]	SYSTEM SENSOR P2RK HORN/STROBE, WALL, OUTDOOR, RED MOUNT DIRECTLY ABOVE FDC AT 8'-10" A.F.G BACK BOX: PLASTIC BACKBOX INCLUDED WITH DEVICE

FIRE ALARM WIRE LEGEND	
TAG	DESCRIPTION
A	SIGNALING LINE CIRCUIT, CLASS B (2C) 18AWG SOLID, TWSTD, JACKETED CABLE FPLR
B	NOTIFICATION APPLIANCE CIRCUIT (NAC), CLASS B (2C) 14AWG SOLID, TWISTED, JACKETED CABLE: FPLP
P	AUX. POWER FOR ANNUNCIATOR (2C) 14AWG SOLID, TWISTED, JACKETED CABLE: FPLP
R	ANNUNCIATOR DATA CIRCUIT (ANN-BUS), CLASS A (2C) 18AWG SOLID, TWISTED, JACKETED CABLE: FPLP

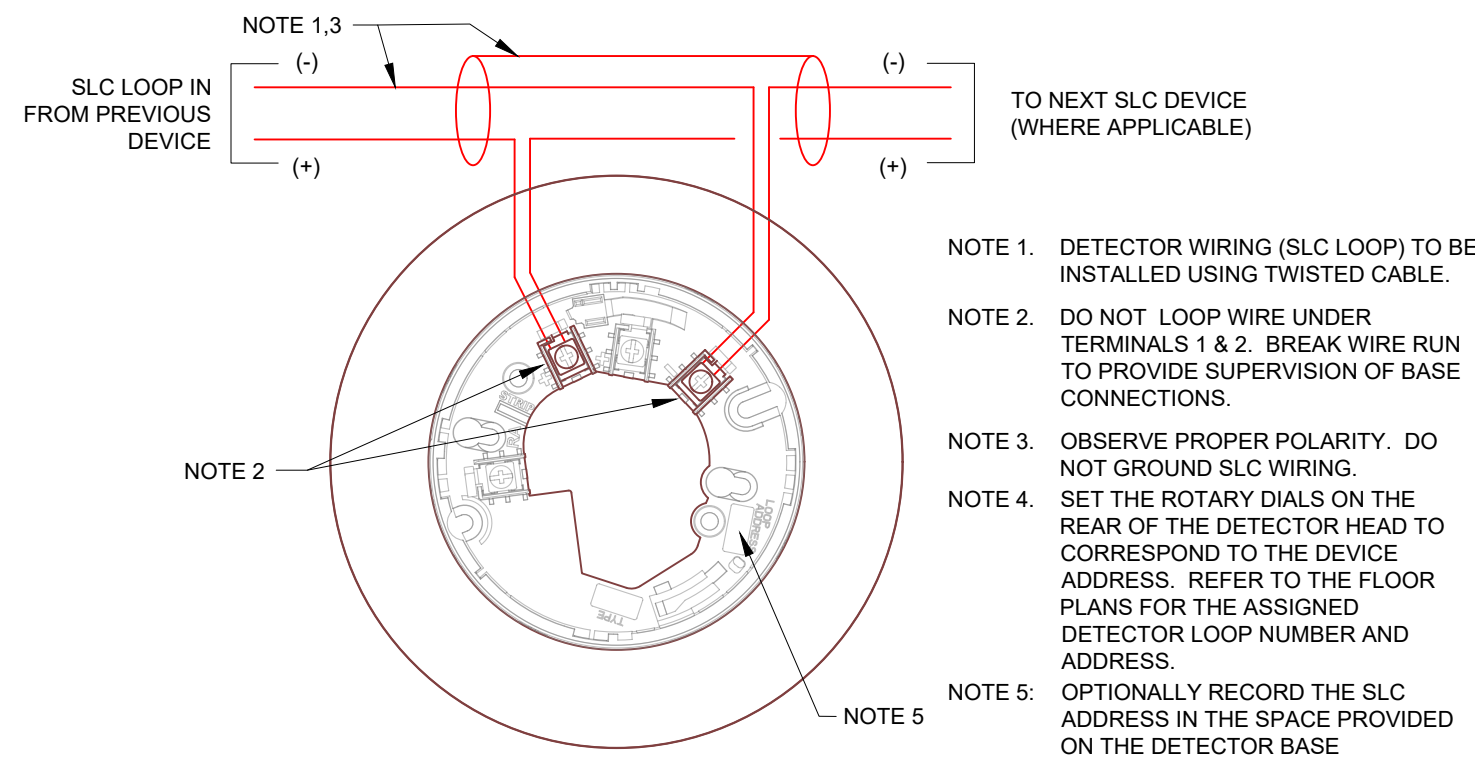
DEVICE NUMBERING DETAILS	
N = NEW (DEFAULT) E = EXIST (NO ACTION) ER = EXIST TO REUSE ED = EXIST TO DELETE	TYPE OF SIGNAL CIRCUIT 'N' = NAC REMOTE POWER SUPPLY 'P' = FACP PANEL 'V' = VOICE EVAC (SPEAKER) PANEL NUMBER (IF ANY) CIRCUIT NUMBER IN PANEL
NO NOTATION = NEW	N2-1-01 → DEVICE NUMBER N → END OF LINE RESISTOR (LAST DEVICE ON CKT) 30 → CANDELA RATING
NOTIFICATION APPLIANCES	
[S] [S] [S] [S] [F]	MODULES
[CO] [P] [P] [P] [P]	DETECTORS
ADDRESSABLE DEVICES	
N1L1D01	
NETWORK NODE NUMBER SLC or LOOP NUMBER DENOTES DEVICE TYPE 'M'=MODULE, 'D'=DETECTOR DEVICE ADDRESS NUMBER (1-159 DET, 1-159 MOD)	



MIDWEST ALARM SERVICES 9745 Widmer, Lenexa, KS 66215 (913) 677-3711 FAX (913) 677-3712 <small>COPYRIGHT 2024 MIDWEST ALARM SERVICES - ALL RIGHTS RESERVED</small>	
REVISION DESCRIPTION	
DATE	
NO.	
Residences at Blackwell - Building 4 2911 SE Shenandoah Pwky, Lee's Summit MO 64063 prepared for: Ridgeline Power Group 4700 Roe Parkway, Mission, KS 66205	
SEAL:	
DRAWN BY: D. LANE	DATE: 05.28.2024
DESIGNED BY: PR	DATE: 05.07.24
APPROVED BY:	DATE:
PROJECT NUMBER: 3303 24050258	
SHEET TITLE: FIRE ALARM SYSTEM Cover Page & Notes Calculations - Clubhouse	
SHEET NUMBER: FA-0 1 of 8	

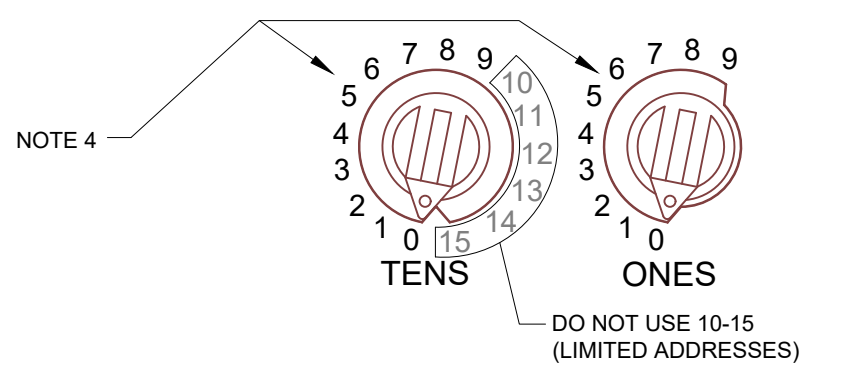


NBG-12LX MANUAL PULL STATION

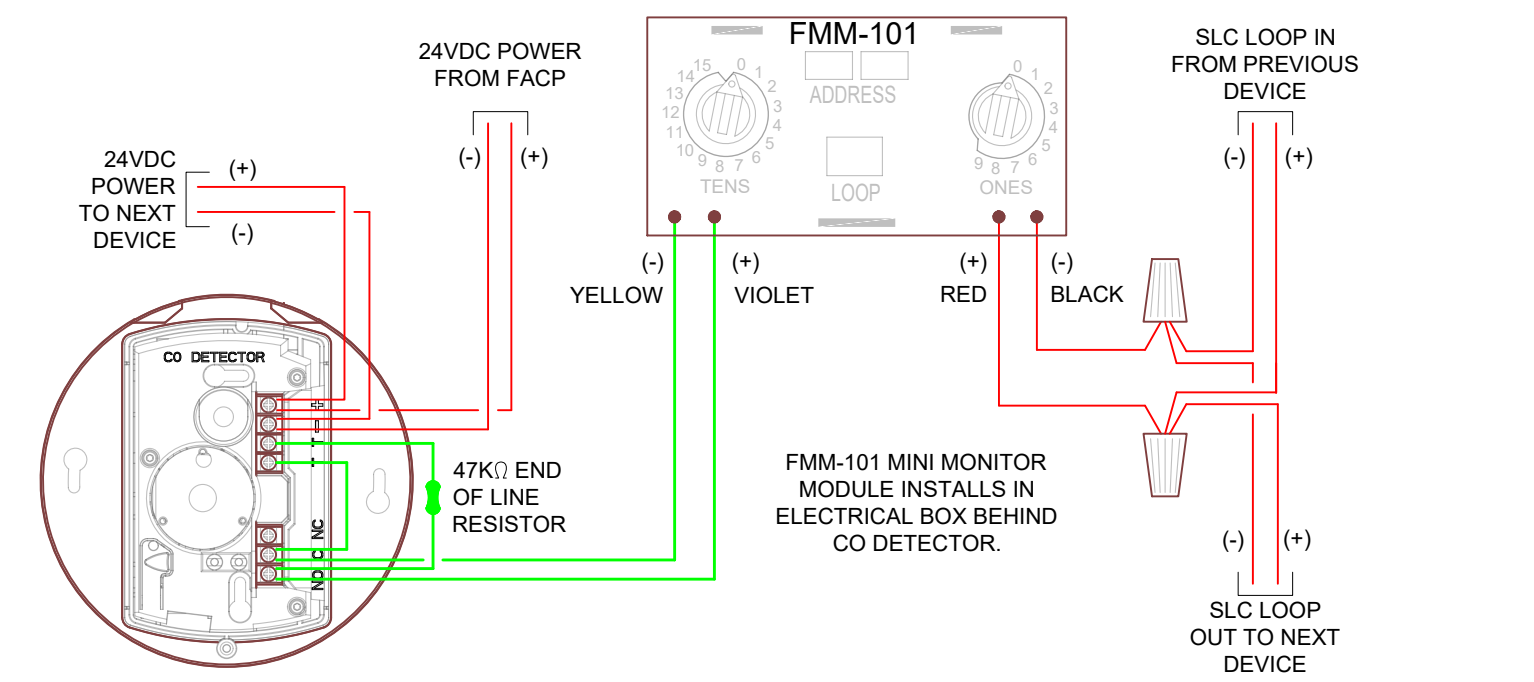


B300-6 DETECTOR BASE WIRING DETAIL

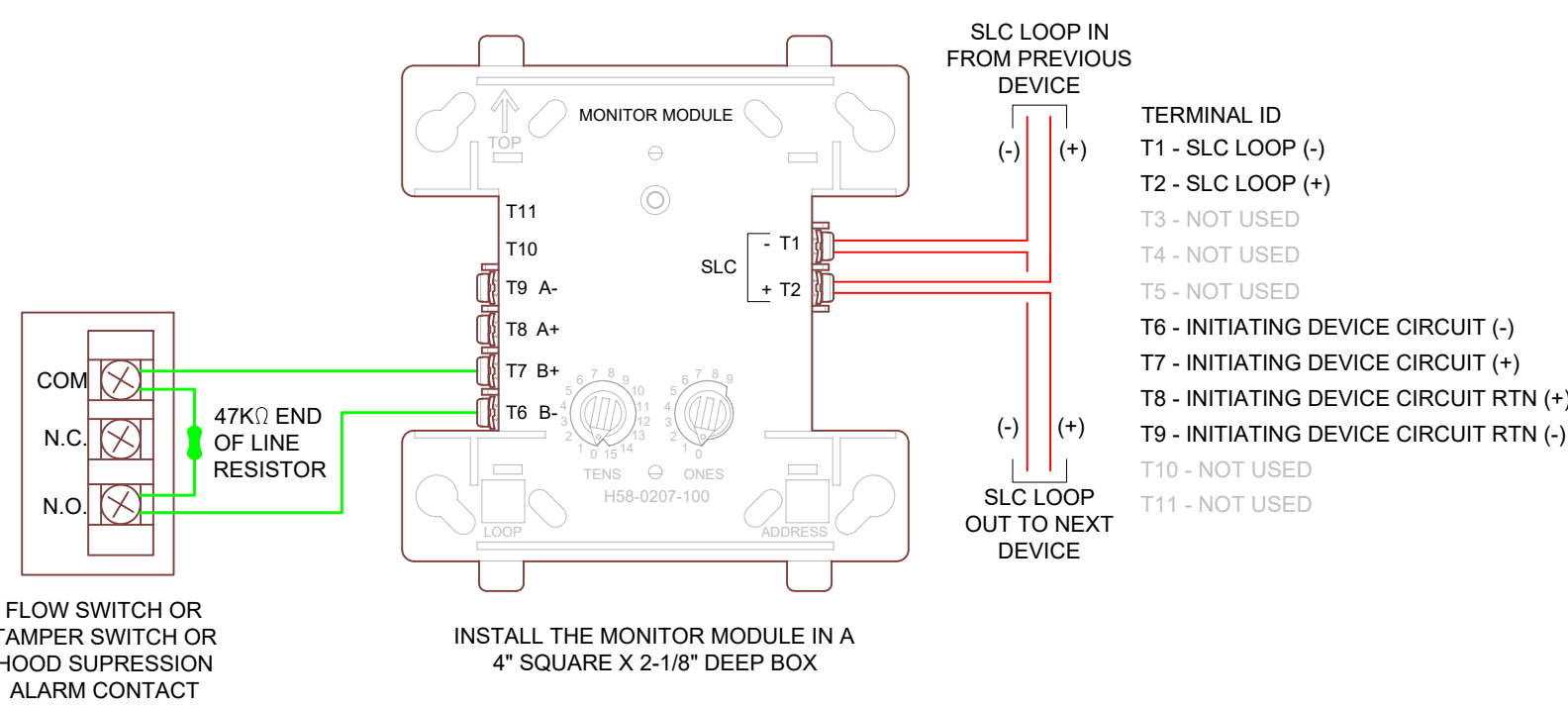
NOTE - LIMITED ADDRESSES:
EACH DEVICE CAN BE SET TO ONE OF 159 ADDRESSES (01-159), HOWEVER ONLY 99 DETECTOR AND 99 MODULE ADDRESSES ARE AVAILABLE IN THIS SYSTEM FOR A TOTAL OF 198 POINTS. CHANGE EACH DEVICE FROM FACTORY PRESET ADDRESS OF "00" USING A COMMON SCREWDRIVER TO ROTATE THE POINTER TO THE NUMBER DESIRED.



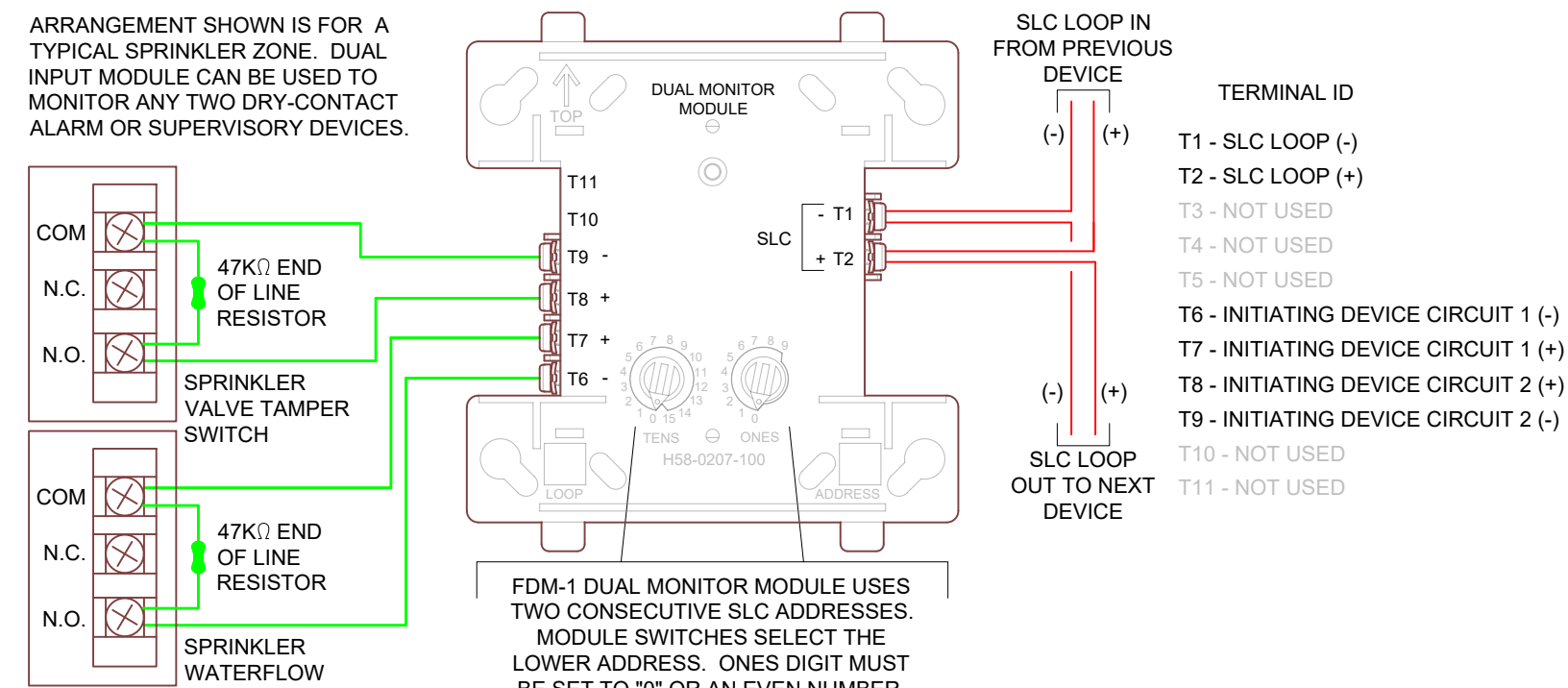
SETTING SLC ADDRESS
(ROTARY DIALS)



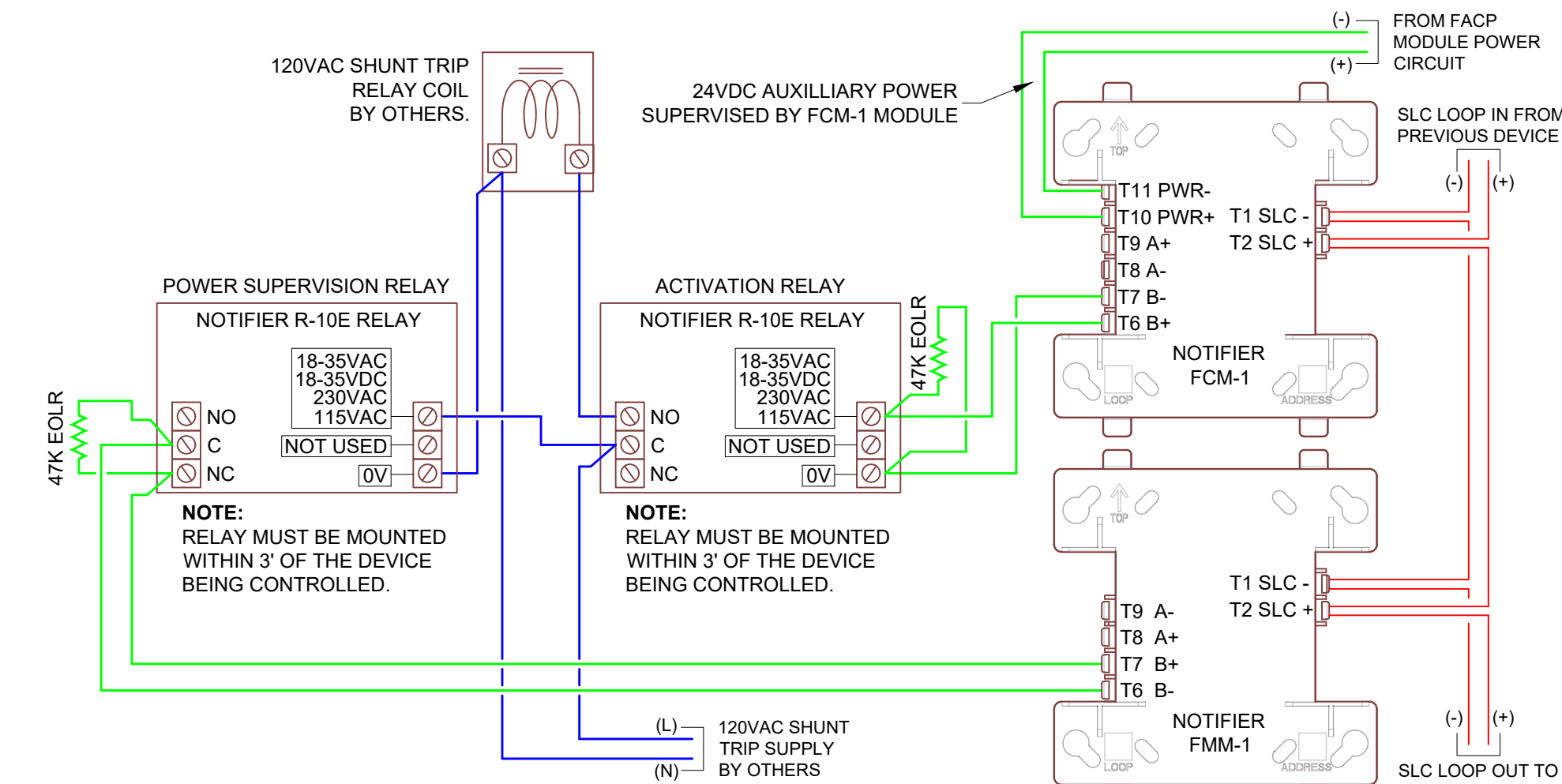
CO1224TR DETECTOR WITH FMM-101
MINI MONITOR MODULE



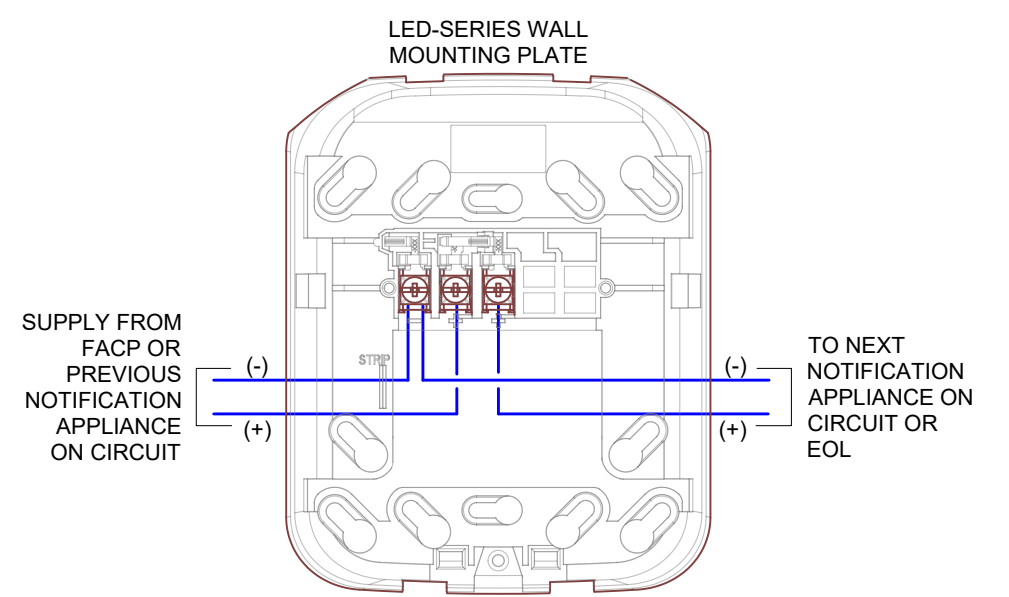
FMM-1 ADDRESSABLE MONITOR MODULE



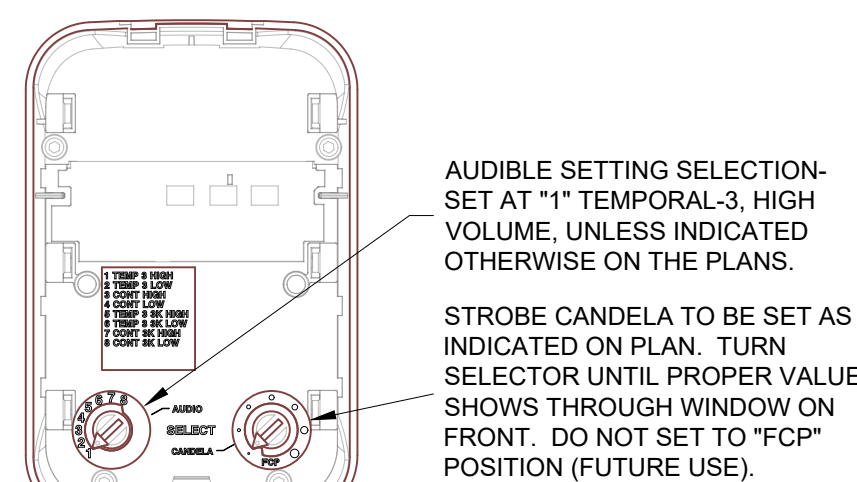
FDM-1 DUAL INPUT MONITOR MODULE - TYPICAL WIRING



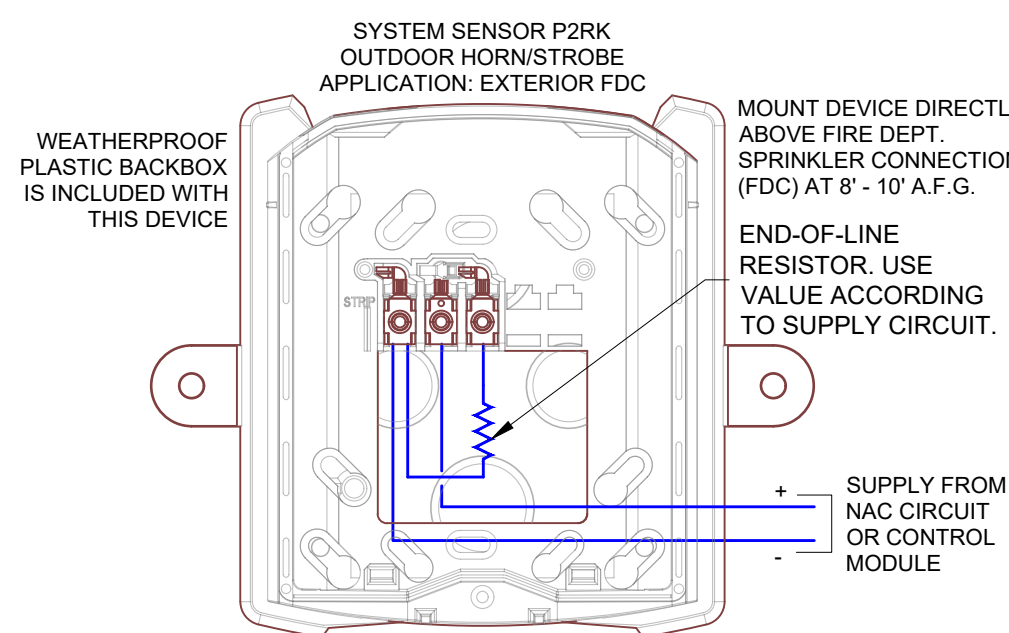
ELEVATOR SHUNT TRIP WIRING DETAIL



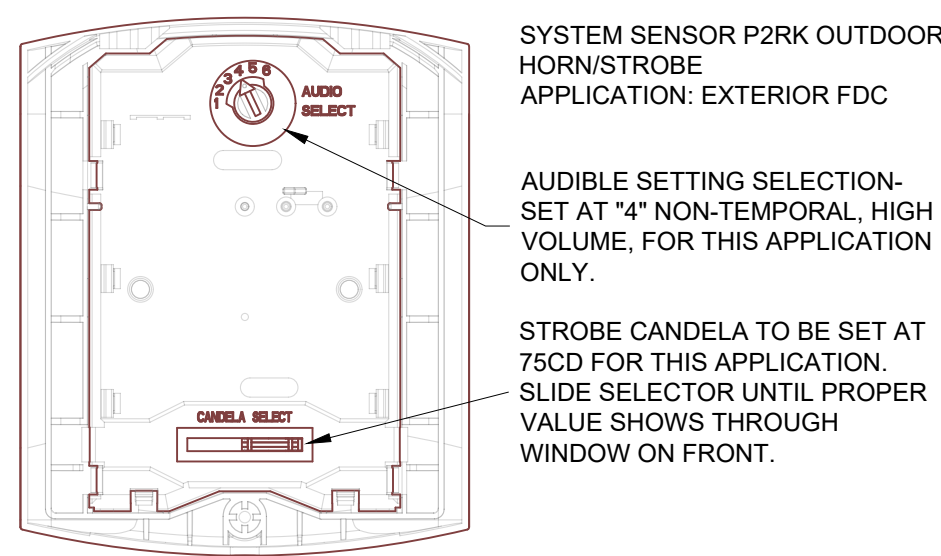
SYSTEM SENSOR LED-SERIES
HORN / STROBE & STROBE



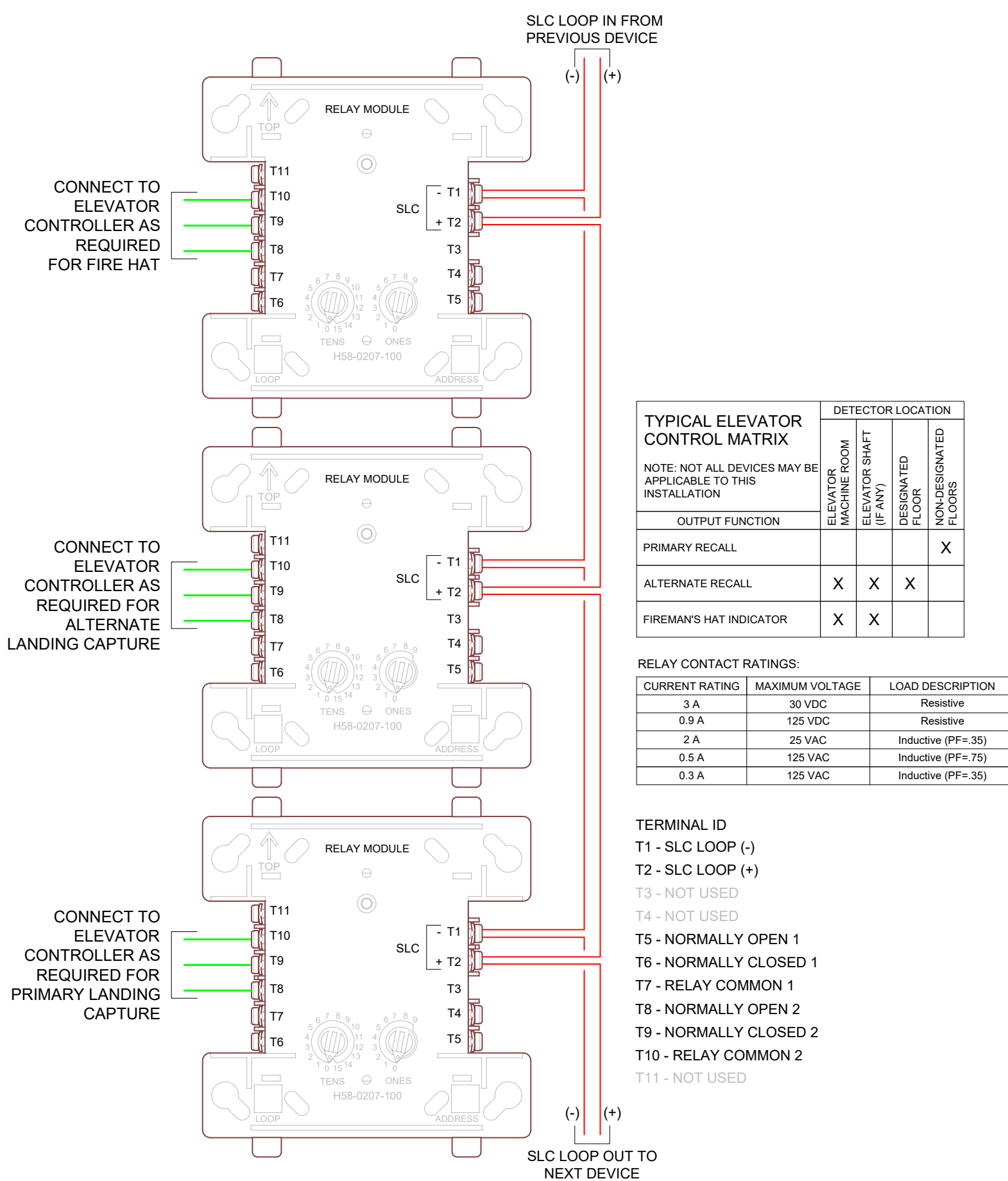
LED-SERIES HORN / STROBE
CANDELA & AUDIBLE SETTINGS



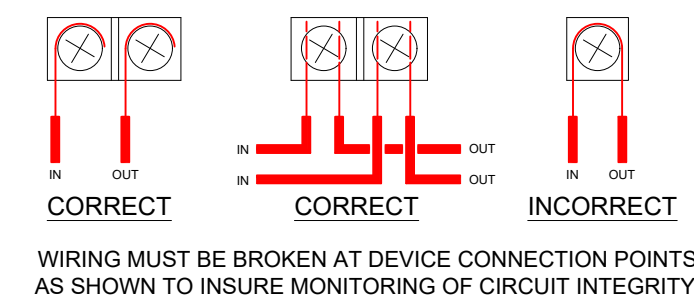
SYSTEM SENSOR P2RK
OUTDOOR HORN / STROBE



P2RK OUTDOOR HORN / STROBE
CANDELA & AUDIBLE SETTINGS

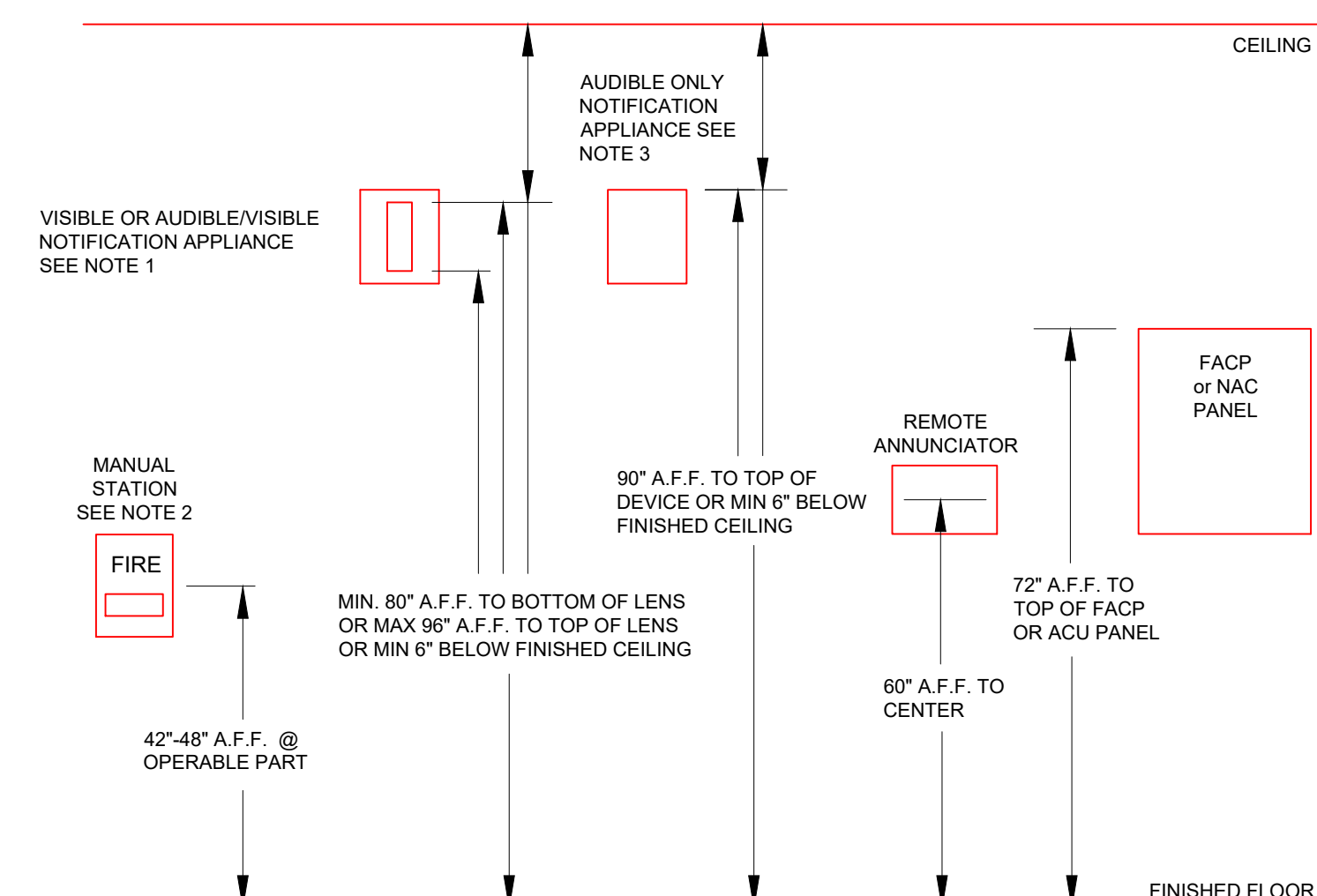


FRM-1 RELAY MODULE/ELEVATOR INTERFACES

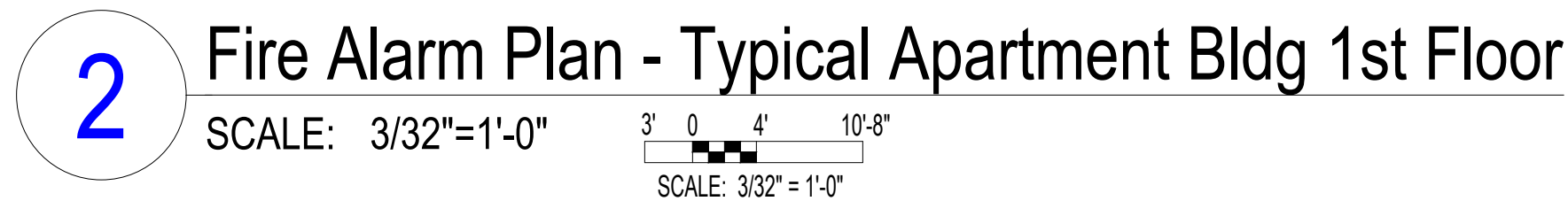


WIRING METHODS

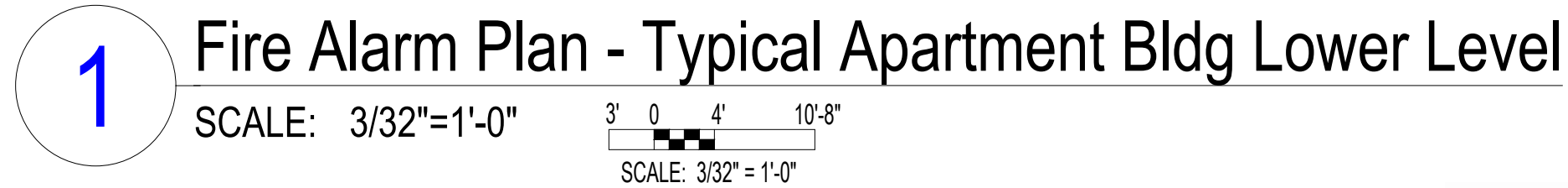
- NOTES:
- VISIBLE OR AUDIBLE/VISIBLE APPLIANCES SHALL BE MOUNTED SO THAT THE ENTIRE LENS IS NOT LESS THAN 80" A.F.F. OR GREATER THAN 96" A.F.F. WHERE LOW CEILING HEIGHTS PREVENT ABOVE, MOUNT AT 6" BELOW CEILING TO TOP OF LENS. FOR CORRIDORS 20' OR LESS WIDE, MOUNT VISUAL APPLIANCES NO MORE THAN 15' FROM END OF CORRIDOR WITH NO MORE THAN 100' SEPARATION BETWEEN VISUAL APPLIANCES. MAXIMUM CORRIDOR LENGTH COVERED BY A SINGLE 15cd STROBE SHALL NOT EXCEED 30'.
 - MOUNT MANUAL STATIONS WITHIN 5' OF EXIT DOORWAY OPENING.
 - AUDIBLE ONLY APPLIANCES SHALL BE MOUNTED SO THAT THE TOP OF DEVICE IS NOT LESS THAN 90" A.F.F. IF CEILING PERMITS AND A MINIMUM 6" FROM CEILING.



INSTALLATION HEIGHTS FOR
WALL MOUNTED DEVICES



LOW FREQUENCY NOTIFICATION DEVICES IN UNITS AND PATHWAYS SHOWN IN **MAJENTA COLOR** ARE FOR FUTURE EXPANSION IN SLEEPING AREAS AS REQUIRED BY ICC A117.1. ELECTRICAL BOX ROUGH-IN AND WIRING ARE TO BE INCLUDED IN THE INSTALLATION. CONNECT CIRCUITS THROUGH AT FUTURE LOCATIONS AND BLANK OFF BOX. NAC CALCULATIONS INCLUDE FUTURE DEVICES.



AHU-H1	600 CFM
AHU-H2	600 CFM
AHU-H3	600 CFM
AHU-H4	600 CFM
AHU-H5	600 CFM
AHU-H6	600 CFM

None of the units in this building are over 2,000 CFM to require duct detectors and shutdown function from the fire

FIRE ALARM WIRE LEGEND	
TAG	DESCRIPTION
A	SIGNALING LINE CIRCUIT, CLASS B (2C) 18AWG SOLID, TWSTD, JACKETED CABLE FPLP
B	NOTIFICATION APPLIANCE CIRCUIT (NAC), CLASS B (2C) 14AWG SOLID, TWISTED, JACKETED CABLE, FPLP
P	AUX. POWER FOR ANNUNCIATOR (2C) 14AWG SOLID, TWISTED, JACKETED CABLE, FPLP
R	ANNUNCIATOR DATA CIRCUIT (ANN-BUS), CLASS A (2C) 18AWG SOLID, TWISTED, JACKETED CABLE, FPLP

DEVICE NUMBERING DETAILS

N = NEW (DEFAULT)
 E = EXIST (NO ACTION)
 ER = EXIST TO REUSE
 ED = EXIST TO DELETE

NO NOTATION = NEW

TYPE OF SIGNAL CIRCUIT
 'N' = NAC REMOTE POWER SUPPLY
 'P' = FACP PANEL
 'V' = VOICE EVAC (SPEAKER)
 PANEL NUMBER (IF ANY)
 CIRCUIT NUMBER IN PANEL

N2-1-01

DEVICE NUMBER
 END OF LINE RESISTOR
 (LAST DEVICE ON CKT)
 CANDELA RATING

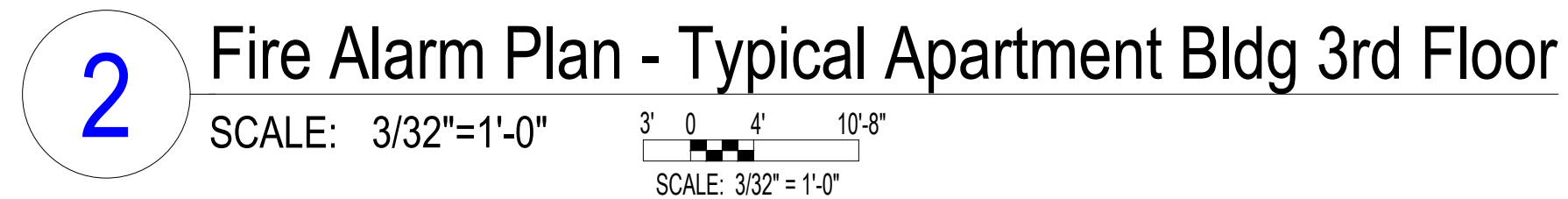
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NOTIFICATION APPLIANCES

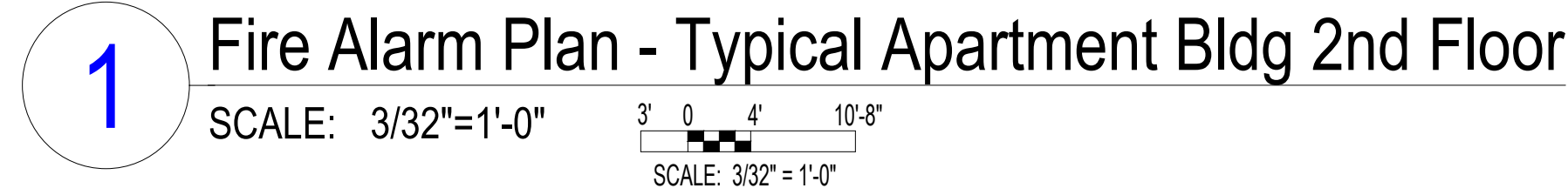
NETWORK NODE NUMBER
 SLC or LOOP NUMBER
 DENOTES DEVICE TYPE
 "M"=MODULE, "D"=DETECTOR
 DEVICE ADDRESS NUMBER
 (1-159 DET, 1-159 MOD)


















N1L1D01

ADDRESSABLE DEVICES



LOW FREQUENCY NOTIFICATION DEVICES IN UNITS AND PATHWAYS SHOWN IN **MAJENTA COLOR** ARE FOR FUTURE EXPANSION IN SLEEPING AREAS AS REQUIRED BY ICC A117.1. ELECTRICAL BOX ROUGH-IN AND WIRING ARE TO BE INCLUDED IN THE INSTALLATION. CONNECT CIRCUITS THROUGH AT FUTURE LOCATIONS AND BLANK OFF BOX. NAC CALCULATIONS INCLUDE FUTURE DEVICES.



FIRE ALARM SYMBOLS LEGEND	
SYMBOL	DESCRIPTION
	NOTIFIER NFS-320 FIRE ALARM PANEL MOUNT AS SHOWN AT 72" AFF TO TOP OF BOX BACK BOX: INCLUDED.
	NOTIFIER FDU-80 LCD ANNUNCIATOR, 80 CHAR. MOUNT AS SHOWN ON SHEET FA-102 BACK BOX: SINGLE GANG
	NOTIFIER FNG-12LX ADDRESSABLE MANUAL PULL STATION SEE FA GENERAL NOTE 7 FOR MOUNTING HEIGHT BACK BOX: SINGLE GANG 1.875" DEEP MIN
	NOTIFIER FSP-951 SMOKE DETECTOR (PHOTO) MOUNT ON B300-6 BASE, AS INDICATED BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP
	SINGLE-STATION SMOKE ALARM PROVIDED BY OTHERS, SHOWN FOR REFERENCE ONLY BACK BOX:
	SINGLE-STATION COMBO CO/SMOKE ALARM PROVIDED BY OTHERS, SHOWN FOR REFERENCE ONLY BACK BOX:
	NOTIFIER FST-951 HEAT DETECTOR, 135F MOUNT ON B300-6 BASE, AS INDICATED BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP
	SYSTEM SENSOR 101/1224TR CARBON MONOXIDE DETECTOR INCLUDE FMM-101 FOR ADDRESSABLE INTERFACE BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP
	NOTIFIER FMM-1 ADDRESSABLE MONITOR MODULE MOUNT AS SHOWN ON PLANS BACK BOX: 4" SQUARE x 2-1/8" DEEP
	NOTIFIER FDM-1 DUAL ADDRESSABLE MONITOR MODULE MOUNT AS SHOWN ON PLANS BACK BOX: 4" SQUARE x 2-1/8" DEEP
	NOTIFIER FCM-1 ADDRESSABLE CONTROL MODULE MOUNT WITHIN 3" OF CONTROLLED DEVICE BACK BOX: 4" SQUARE x 2-1/8" DEEP
	NOTIFIER FRM-1 ADDRESSABLE RELAY MODULE MOUNT WITHIN 3" OF CONTROLLED DEVICE BACK BOX: 4" SQUARE x 2-1/8" DEEP
	SYSTEM SENSOR SWLD STROBE, WALL MOUNT, WHITE FOR MOUNTING HEIGHT SEE FA GENERAL NOTE 9. BACK BOX: SINGLE GANG 1.875" DEEP MIN.
	SYSTEM SENSOR SCWLD STROBE, CEILING MOUNT, WHITE MOUNT IN DROP CEILING TILE OR BOTTOM OF CLNG TRUSS BACK BOX: SINGLE GANG 1.875" DEEP MIN.
	SYSTEM SENSOR P2WLD HORN/STROBE, WALL MOUNT, WHITE FOR MOUNTING HEIGHT SEE FA GENERAL NOTE 9. BACK BOX: SINGLE GANG 1.875" DEEP MIN.
	SYSTEM SENSOR HWL-LF LOW FREQ. HORN/STRB, WALL, WHT FOR MOUNTING HEIGHT SEE FA GENERAL NOTE 9. BACK BOX: SINGLE GANG 1.875" DEEP MIN.
	SYSTEM SENSOR P2RK HORN/STROBE, WALL, OUTDOOR, RED MOUNT DIRECTLY ABOVE FDC AT 8'-10" A.F.G BACK BOX: PLASTIC BACKBOX INCLUDED WITH DEVICE

FIRE ALARM WIRE LEGEND	
TAG	DESCRIPTION
A	SIGNALING LINE CIRCUIT, CLASS B (2C) 18AWG SOLID, TWISTED, JACKETED CABLE, FPLP
B	NOTIFICATION APPLIANCE CIRCUIT (NAC), CLASS B (2C) 14AWG SOLID, TWISTED, JACKETED CABLE, FPLP
P	AUX. POWER FOR ANNUNCIATOR (2C) 14AWG SOLID, TWISTED, JACKETED CABLE, FPLP
R	ANNUNCIATOR DATA CIRCUIT (ANN-BUS), CLASS A (2C) 18AWG SOLID, TWISTED, JACKETED CABLE, FPLP

KEYED NOTES		DWG SHEET #FA-202
KEY #	NOTE TEXT	
1	120VAC DEDICATED AC POWER FOR FIRE ALARM SYSTEM, TO BE PROVIDED BY ELECTRICAL CONTRACTOR.	
2	NOT USED THIS SHEET	
3	DETECTOR PROGRAMMED FOR ELEVATOR CONTROL IN ACCORDANCE WITH I/O MATRIX ON SHEET FA-0.	
4	NOT USED THIS SHEET	
5	120VAC SINGLE-STATION SMOKE DETECTORS SHALL BE INTERCONNECTED WITHIN UNITS FOR ALARM SIGNAL AS REQUIRED BY NFPA 72 CHAPTER 29, PROVIDED AND INSTALLED BY OTHERS, SHOWN FOR REFERENCE ONLY.	
6	COORDINATE LOCATION AND CONNECTION OF ELEVATOR PHASE 1 FIRE SERVICE INTERFACE DEVICES WITH ELEVATOR CONTRACTOR. COORDINATE ELEVATOR POWER SHUNT TRIP INTERFACES WITH ELECTRICAL CONTRACTOR.	
7	CONTROL RELAY FOR SMOKE CURTAIN AS CALLED OUT ON CONTRACT DRAWINGS. PROGRAM TO OPERATE AS SHOWN IN I/O MATRIX ON SHEET FA-0	

DEVICE NUMBERING DETAILS

DEVICE NUMBERING DETAILS

N = NEW (DEFAULT)
 E = EXIST (NO ACTION)
 ER = EXIST TO REUSE
 ED = EXIST TO DELETE

NO NOTATION = NEW

TYPE OF SIGNAL CIRCUIT
 "N" = NAC REMOTE POWER SUPPLY
 "F" = FACP PANEL
 "V" = VOICE EVAC (SPEAKER)

PANEL NUMBER (IF ANY)
CIRCUIT NUMBER IN PANEL

DEVICE NUMBER
END OF LINE RESISTOR
(LAST DEVICE ON CKT)
CANDELA RATING

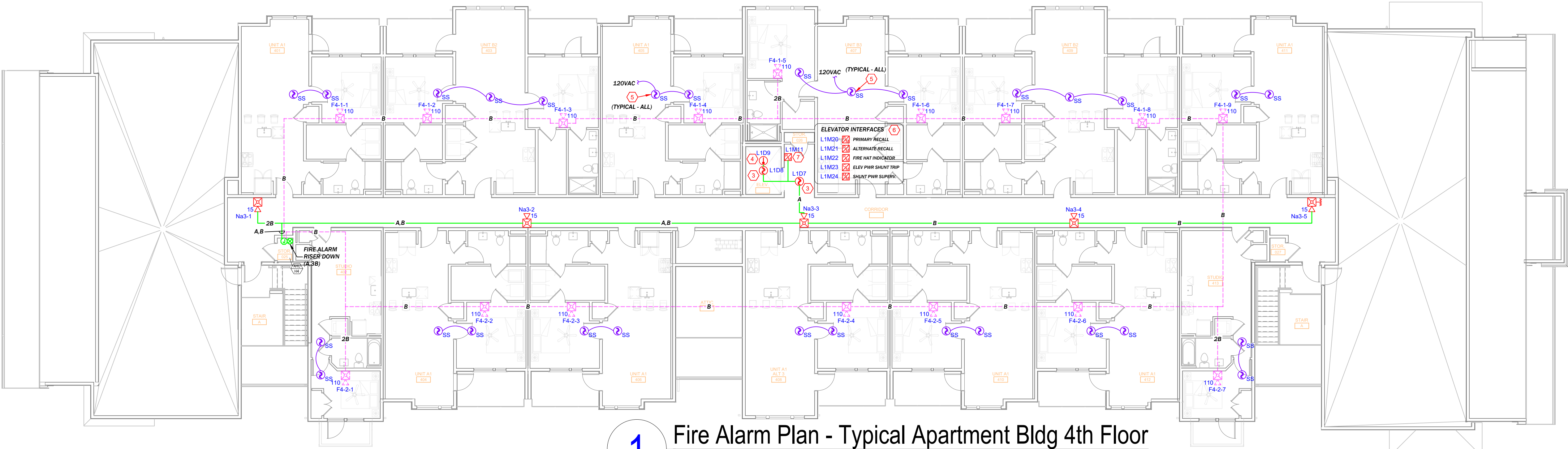
NOTIFICATION APPLIANCES

MODULES
DETECTORS

NETWORK NODE NUMBER
SLC or LOOP NUMBER
DENOTES DEVICE TYPE
 "M"=MODULE, "D"=DETECTOR
DEVICE ADDRESS NUMBER
 (1-159 DET, 1-159 MOD)

ADDRESSABLE DEVICES





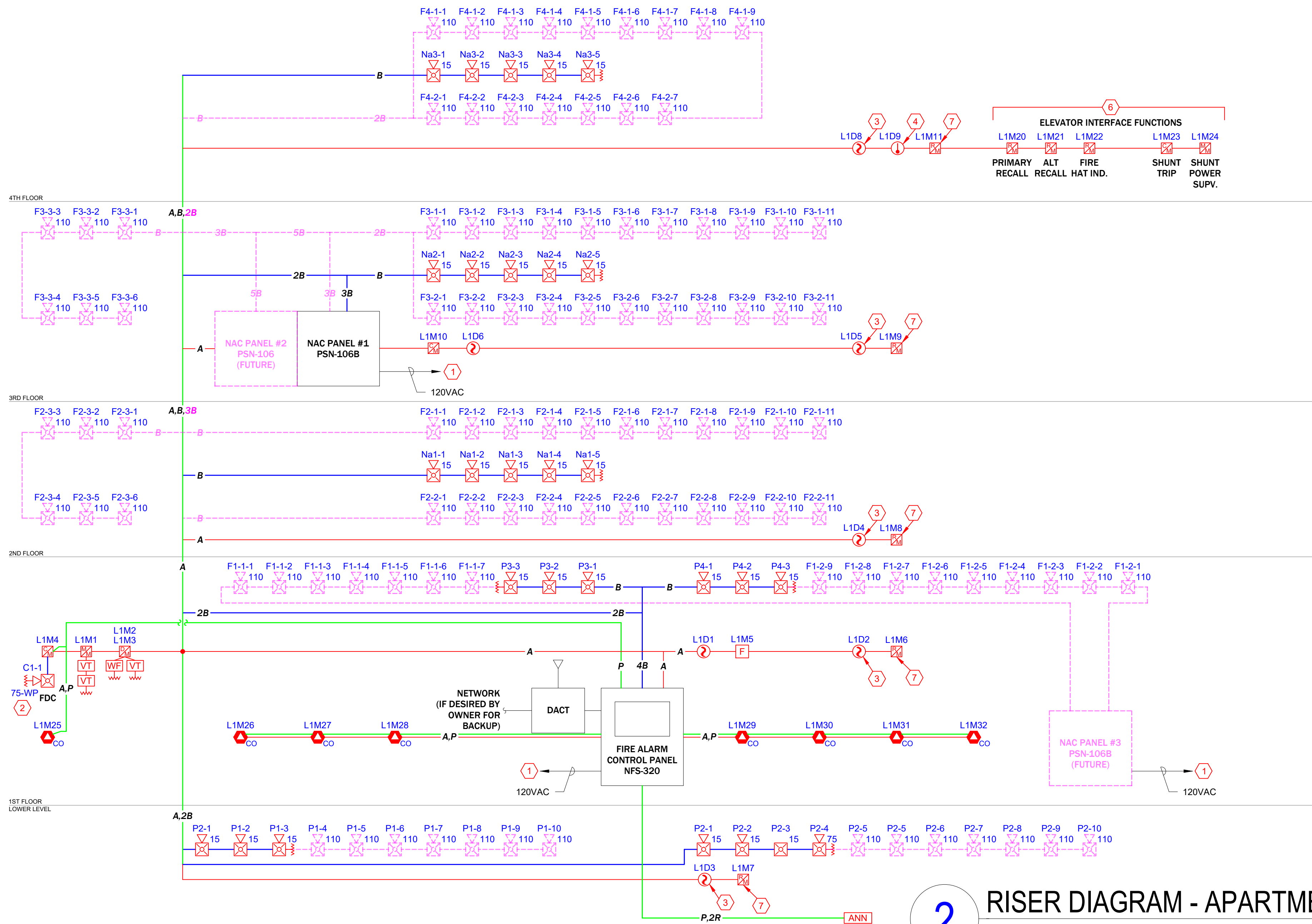
1 Fire Alarm Plan - Typical Apartment Bldg 4th Floor

SCALE: 3/32"=1'-0"

3' 0' 4' 10'-8"
SCALE: 3/32"=1'-0"

GENERAL NOTE - FUTURE CAPACITY

LOW FREQUENCY NOTIFICATION DEVICES IN UNITS AND PATHWAYS SHOWN IN **MAGENTA COLOR** ARE FOR FUTURE EXPANSION IN SLEEPING AREAS AS REQUIRED BY ICC A117.1. ELECTRICAL BOX ROUGH-IN AND WIRING ARE TO BE INCLUDED IN THE INSTALLATION. CONNECT CIRCUITS THROUGH AT FUTURE LOCATIONS AND BLANK OFF BOX. NAC CALCULATIONS INCLUDE FUTURE DEVICES.



2 RISER DIAGRAM - APARTMENT BUILDINGS

SCALE: NONE

FIRE ALARM SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	NOTIFIER NFS-320 FIRE ALARM PANEL. MOUNT PANEL AS SHOWN AT 72" AFF TO TOP OF BOX. BACK BOX: INCLUDED.
	NOTIFIER FDU-80 LCD ANNUNCIATOR, 80 CHAR. MOUNT AS SHOWN ON SHEET FA-102. BACK BOX: SINGLE GANG.
	NOTIFIER NBG-12LX ADDRESSABLE MANUAL PULL STATION. SEE FA GENERAL NOTE 7 FOR MOUNTING HEIGHT. BACK BOX: SINGLE GANG 1.875" DEEP MIN.
	NOTIFIER FSP-951 SMOKE DETECTOR (PHOTO). MOUNT ON B300-6 BASE, AS INDICATED. BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP.
	SINGLE-STATION SMOKE ALARM PROVIDED BY OTHERS, SHOWN FOR REFERENCE ONLY. BACK BOX: INCLUDED.
	NOTIFIER FST-951 HEAT DETECTOR, 135F. MOUNT ON B300-6 BASE, AS INDICATED. BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP.
	SYSTEM SENSOR CO1224TR CARBON MONOXIDE DETECTOR. INCLUDE FMM-101 FOR ADDRESSABLE INTERFACE. BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP.
	NOTIFIER FMM-1 ADDRESSABLE MONITOR MODULE. MOUNT AS SHOWN ON PLANS. BACK BOX: 4" SQUARE x 2-1/8" DEEP.
	NOTIFIER FDM-1 DUAL ADDRESSABLE MONITOR MODULE. MOUNT AS SHOWN ON PLANS. BACK BOX: 4" SQUARE x 2-1/8" DEEP.
	NOTIFIER FCM-1 ADDRESSABLE CONTROL MODULE. MOUNT WITHIN 3' OF CONTROLLED DEVICE. BACK BOX: 4" SQUARE x 2-1/8" DEEP.
	NOTIFIER FRM-1 ADDRESSABLE RELAY MODULE. MOUNT WITHIN 3' OF CONTROLLED DEVICE. BACK BOX: 4" SQUARE x 2-1/8" DEEP.
	SYSTEM SENSOR SWLED STROBE, WALL MOUNT, WHITE. FORM MOUNTING HEIGHT SEE FA GENERAL NOTE 9. BACK BOX: SINGLE GANG x 1.875" DEEP MIN.
	SYSTEM SENSOR SCWLED STROBE, CEILING MOUNT, WHITE. MOUNT IN DROP CEILING TILE OR BOTTOM OF CLNG TRUSS. BACK BOX: SINGLE GANG x 1.875" DEEP MIN.
	SYSTEM SENSOR P2WLED HORN/STROBE, WALL MOUNT, WHITE. FORM MOUNTING HEIGHT SEE FA GENERAL NOTE 9. BACK BOX: SINGLE GANG x 1.875" DEEP MIN.
	SYSTEM SENSOR HWL-LF LOW FREQ. HORN/STROBE, WALL, WHT. FORM MOUNTING HEIGHT SEE FA GENERAL NOTE 9. BACK BOX: SINGLE GANG x 1.875" DEEP MIN.
	SYSTEM SENSOR P2RKH HORN/STROBE, WALL, OUTDOOR, RED. MOUNT DIRECTLY ABOVE FDC AT 8'-10" A.F.G. BACK BOX: PLASTIC BACKBOX INCLUDED WITH DEVICE.

FIRE ALARM WIRE LEGEND

TAG	DESCRIPTION
A	SIGNALING LINE CIRCUIT, CLASS B (2C) 18AWG SOLID, TWISTED, JACKETED CABLE FPLR
B	NOTIFICATION APPLIANCE CIRCUIT (NAC), CLASS B (2C) 14AWG SOLID, TWISTED, JACKETED CABLE, FPLP
P	AUX. POWER FOR ANNUNCIATOR (2C) 14AWG SOLID, TWISTED, JACKETED CABLE, FPLP
R	ANNUNCIATOR DATA CIRCUIT (ANN-BUS), CLASS A (2C) 18AWG SOLID, TWISTED, JACKETED CABLE, FPLP


KEYED NOTES

KEY #	NOTE TEXT
1	120VAC DEDICATED AC POWER FOR FIRE ALARM SYSTEM, TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
2	EXTERIOR NOTIFICATION DEVICE LOCATED DIRECTLY ABOVE FIRE DEPARTMENT SIAMESE CONNECTION (FDC) AT 10' A.F.G. DEVICE PROGRAMMED TO ACTIVATE ON SPRINKLER WATERFLOW IN ACCORDANCE WITH I/O MATRIX ON SHEET FA-0. SEE DETAIL ON FA-102 FOR SOUNDER SETTINGS.
3	DETECTOR PROGRAMMED FOR ELEVATOR CONTROL IN ACCORDANCE WITH I/O MATRIX ON SHEET FA-0.
4	HEAT DETECTOR(S) TO BE LOCATED WITHIN 24" OF EACH SPRINKLER HEAD IN ELEVATOR HOISTWAY AND MACHINE ROOM. DEVICE PROGRAMMED FOR ELEVATOR POWER SHUNT TRIP IN ACCORDANCE WITH I/O MATRIX ON SHEET FA-0. SHUNT TRIP EQUIPMENT BY OTHERS.
5	120VAC SINGLE-STATION SMOKE DETECTORS SHALL BE INTERCONNECTED WITHIN UNITS FOR ALARM SIGNAL, AS REQUIRED BY NFPA 72 CHAPTER 29. PROVIDED AND INSTALLED BY OTHERS, SHOWN FOR REFERENCE ONLY.
6	COORDINATE LOCATION AND CONNECTION OF ELEVATOR PHASE 1 FIRE SERVICE INTERFACE DEVICES WITH ELEVATOR CONTRACTOR. COORDINATE ELEVATOR POWER SHUNT TRIP INTERFACES WITH ELECTRICAL CONTRACTOR.
7	CONTROL RELAY FOR SMOKE CURTAIN AS CALLED OUT ON CONTRACT DRAWINGS. PROGRAM TO OPERATE AS SHOWN IN I/O MATRIX ON SHEET FA-0.

DEVICE NUMBERING DETAILS

N = NEW (DEFAULT) E = EXIST (NO ACTION) ER = EXIST TO REUSE ED = EXIST TO DELETE	TYPE OF SIGNAL CIRCUIT 'N' = NAC REMOTE POWER SUPPLY 'P' = VOICE EVAC (SPEAKER) 'V' = PANEL NUMBER (IF ANY) CIRCUIT NUMBER IN PANEL
NO NOTATION = NEW	DEVICE NUMBER END OF LINE RESISTOR (LAST DEVICE ON CKT) CANDELA RATING
NOTIFICATION APPLIANCES	
	NETWORK NODE NUMBER SLC or LOOP NUMBER DENOTES DEVICE TYPE 'M'=MODULE, 'D'=DETECTOR DEVICE ADDRESS NUMBER (1-159 DET, 1-159 MOD)
ADDRESSABLE DEVICES	





PSN-106

Battery & Voltage Drop Calculations

Project Name: Residences at Blackwell

Installed By: Midwest Alarm Services

Designed By: David Lane

Date: 07.18.2024

Standy Hours: 24

Alarm Mins: 5

Safety Margin: 20%

NAC Source Voltage: 20.4

Model #: PSN-106

Panel ID: NAC #3 (apartment bldg typical)

Location: 1st floor mech room (FUTURE)

Max Panel Current (amps): 10

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

Qty	Panel Part #	Description	Standy (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-106	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:				0.075	Panel Alarm: 0.075	

NAC Circuits (See NAC Configuration below)	Panel Use	Description	Class	Standy (amps) Total	Alarm (amps) Total
1	Notification	(FUTURE) 1st flr units #1	Class B	0.00000	1.27400
2	Notification	(FUTURE) 1st flr units #2	Class B	0.00000	1.63800
3	Unused		Class B	0.00000	0.00000
4	Unused		Class B	0.00000	0.00000
5	Unused		Class B	0.00000	0.00000
6	Unused		Class B	0.00000	0.00000
AUX	Aux Power			0.00000	0.00000
NAC Standby:				0.00000	NAC Alarm: 2.91200

Battery Calculation Summary		Standy (amps)	Alarm (amps)
Panel Current:		0.07500	0.07500
NAC Circuit Current:		0.00000	2.91200
Total Standby:		0.075000	2.98700
Standby Hours:		24	Alarm Mins: 5
AH Required:		1.80	AH Required: 0.25
Total Combined Standby & Alarm AmpHours Required:		2.05	
Efficiency Factor:		20%	
Required Battery AmpHours:		2.46	
Battery AmpHours Provided:		7	

26

Amp Hours

Check

Battery Selection

Select batteries from the list below.

26 AH BAT-12260 Battery (12 volt)

☒ Two
 ☐ Four (two 12VDC sets in parallel)

Battery Distribution Chart

Shows amp-hour distribution of your selections.

A pie chart illustrating the distribution of amp-hours for the selected battery. The chart is divided into three segments: a large orange segment for 'Secondary Standby Load' at 79%, a blue segment for 'Spare Battery Capacity' at 19%, and a small grey segment for 'Secondary Alarm Load' at 2%.


Category	Percentage
Spare Battery Capacity	19%
Secondary Standby Load	79%
Secondary Alarm Load	2%

Comments

- Batteries will fit in the FACP cabinet.
- Selected battery size meets secondary load requirements.
- The selected batteries (26AH) are within the charge range of this power supply (18-200AH).

Spare Battery Capacity	5.01	Battery Selection (AH) - Secondary Load Requirements (AH)
Secondary Standby Load	20.58	Secondary Standby Load (AH) * Derating Factor
Secondary Alarm Load	0.41	Secondary Alarm Load (AH) * Derating Factor





NOTIFIER

by Honeywell

Device Current Draw

NFS-320 Fire Alarm Control Panel

Quantity x (device current draw) = total current draw per device (in amps)

Part Number	Qty	Primary Non-Alarm	Primary Alarm	Secondary Non-Alarm	Secondary Alarm		
CPU-320	1	x (0.25000) = 0.25000	x (0.25000) = 0.25000	x (0.25000) = 0.25000	x (0.25000) = 0.25000		
CPS-24	1	x (0.00000) = 0.00000	x (0.00000) = 0.00000	x (0.04000) = 0.04000	x (0.04000) = 0.04000		
# of NACs in use	4	x (0.03500) = 0.14000	x (0.03500) = 0.14000	x (0.03500) = 0.14000	x (0.03500) = 0.14000		
FDU-80	1	x (0.06430) = 0.06430	x (0.06430) = 0.06430	x (0.06430) = 0.06430	x (0.06430) = 0.06430		
UDACT-2 Communicator	1	x (0.05200) = 0.05200	x (0.08700) = 0.08700	x (0.05200) = 0.05200	x (0.08700) = 0.08700		
NBG-12LX	1	x (0.00030) = 0.00030	x (0.00000) = 0.00000	x (0.00030) = 0.00030	x (0.00000) = 0.00000		
FSP-351	1	x (0.00020) = 0.00020	x (0.00000) = 0.00000	x (0.00020) = 0.00020	x (0.00000) = 0.00000		
FST-951	1	x (0.00020) = 0.00020	x (0.00000) = 0.00000	x (0.00020) = 0.00020	x (0.00000) = 0.00000		
FCM-1	1	x (0.00020) = 0.00020	x (0.00000) = 0.00000	x (0.00020) = 0.00020	x (0.00000) = 0.00000		
FCM-1	2	x (0.00040) = 0.00077	x (0.00000) = 0.00000	x (0.00040) = 0.00077	x (0.00000) = 0.00000		
FMM-101	8	x (0.00035) = 0.00280	x (0.00000) = 0.00000	x (0.00035) = 0.00280	x (0.00000) = 0.00000		
CO1224T	8	x (0.02000) = 0.16000	x (0.00000) = 0.00000	x (0.02000) = 0.16000	x (0.00000) = 0.00000		
SLC Loop Device Activation Current	1	x (0.00000) = 0.00000	x (0.40000) = 0.40000	x (0.00000) = 0.00000	x (0.40000) = 0.40000		
2PZLED-15	12	x (0.00000) = 0.00000	x (0.03500) = 0.42000	x (0.00000) = 0.00000	x (0.03500) = 0.42000		
2PZLED-75	1	x (0.00000) = 0.00000	x (0.08700) = 0.08700	x (0.00000) = 0.00000	x (0.08700) = 0.08700		
SRLED-15	1	x (0.00000) = 0.00000	x (0.01800) = 0.01800	x (0.00000) = 0.00000	x (0.01800) = 0.01800		
2PRL110	13	x (0.00000) = 0.00000	x (0.18200) = 2.36600	x (0.00000) = 0.00000	x (0.18200) = 2.36600		
2PZK75	1	x (0.00000) = 0.00000	x (0.17600) = 0.17600	x (0.00000) = 0.00000	x (0.17600) = 0.17600		
Total (Amps):		0.6747 A		4.9083 A			
				0.7147 A			
Part Number	Qty	Secondary Alarm					
Total Primary Alarm Load - C2	1	x (4.00830) = 4.00830					
CPS-24	1	x (0.04000) = 0.04000					
Total (Amps):		4.0483 A					

[illegible]