

GENERAL NOTES

1. THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. EXACT ROUTING OF CONDUITS TO BE DETERMINED IN THE FIELD BY THE INSTALLING CONTRACTOR TO SUIT CONDITIONS.
2. ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, OPENS AND GROUNDS.
3. SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT THE DESIGNER IN A TIMELY MANNER SO AS NOT TO IMPAIR THE CONSTRUCTION SCHEDULE.
4. CONTRACTOR IS RESPONSIBLE FOR MAKING AND OBTAINING APPROVAL FOR ALL NECESSARY ADJUSTMENTS IN CIRCUITING AS REQUIRED TO ACCOMMODATE THE RELOCATION OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY AUTHORIZED CHANGE.
5. THE POWER CIRCUIT TO THE FACP AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20A BRANCH CIRCUIT BREAKER, AND SHALL HAVE A RED MARKING, LOCK-ON PROVISION AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL." THE LOCATION OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREAKER) SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
6. ANY SMOKE DETECTOR HEAD INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM DUST.
7. INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. POWER LIMITED AND NON-POWER LIMITED FIELD WIRING MUST BE INSTALLED WITHIN THE FACP ENCLOSURE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
8. ALL WIRING SHALL BE INSTALLED ACCORDING TO NFPA 70 (NEC).
9. FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70 ARTICLES 760, 770, 725 AND 800 WHERE APPLICABLE.
10. ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
11. ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY AT FULL LENGTH OF THE WIRE.
12. ONLY FIRE ALARM SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT.
13. MAINTAIN 40 PERCENT MAXIMUM CONDUIT FILL RATIO AS PER NEC REQUIREMENTS.
14. EXISTING CONDUITS MAY BE USED BY THE INSTALLATION CONTRACTOR AS DEEMED NECESSARY, HOWEVER, ANY EXISTING CONDUIT WILL BE USED ONLY IF CONDUITS MEET CURRENT STANDARDS AND CODES.
15. THE FIRE ALARM SYSTEM SHALL BE MONITORED BY A CENTRAL UL LISTED MONITORING STATION. THE MEANS OF MONITORING SHALL BE VIA TWO COPPER ANALOG PHONE LINES, AND THE FIRE ALARM PANEL WILL SEIZE THE LINES FOR FIRE USE.
16. ALL CEILINGS ARE ASSUMED TO BE 10' A.F.F., SMOOTH CONSTRUCTION UNLESS NOTED OTHERWISE.
17. DEVICES LOCATED INSIDE THE RATED AREA MUST ADHERE TO EXPLOSION PROOF CONDUIT AND BACK BOX REQUIREMENTS.

SCOPE OF WORK

1. INSTALLATION OF NEW FIRE ALARM DEVICES AS SHOWN ON PLANS.
2. THE FIRE ALARM SYSTEM SHALL BE COMPLIANT TO CURRENT CODES.

APPLICABLE CODES

INTERNATIONAL BUILDING CODE - 2018 ED.
 INTERNATIONAL MECHANICAL CODE - 2018 ED.
 UNIFORM PLUMBING CODE - 2018 ED.
 INTERNATIONAL FUEL GAS CODE - 2018 ED.
 INTERNATIONAL ENERGY CONSERVATION CODE - 2018 ED.
 NATIONAL ELECTRICAL CODE - 2017 ED.
 INTERNATIONAL FIRE CODE - 2018 ED.
 ADA STANDARDS FOR ACCESSIBLE DESIGN - 2010 ED.
 NFPA 72 2019 EDITION

SHEET INDEX

SHEET #	SHEET DESCRIPTION
FA-00	COVER SHEET
FA-01	SEQUENCE OF OPERATION
FA-02	EQUIPMENT LIST, CABLE & WIRE LEGEND
FA-03	BATTERY CALCULATION
FA-04	VOLTAGE DROP
FA-05	MODULE FUNCTION
FA-06	RISER DIAGRAM
FA-07	HP STATIONARY - 1MW HYDROGEN ENGINE ENCLOSURE PLAN - DIMENSIONS
FA-08	HP STATIONARY - 1MW HYDROGEN ENGINE ENCLOSURE PLAN - AREA C
FA-09	HP STATIONARY - 1MW HYDROGEN ENGINE ENCLOSURE PLAN - AREA A
FA-10	HP STATIONARY - 1MW HYDROGEN ENGINE ENCLOSURE PLAN - AREA B
FA-11	HP STATIONARY - 1MW HYDROGEN ENGINE ENCLOSURE PLAN - AREA D
FA-12	NFS-320 / FACP-1 WIRING DIAGRAM
FA-13	HON-CGW-MBB / CLSS WIRING DIAGRAM
FA-14	30-3013/EXPLOSION PROOF SMOKE DETECTOR WIRING DIAGRAM
FA-15	SMOKE DETECTOR WIRING DIAGRAM
FA-16	XP10-M/TEN INPUT MONITOR MODULE WIRING DIAGRAM
FA-17	WALL MOUNT HORN/STROBE WIRING DIAGRAM

PROJECT
 PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

REVISION:
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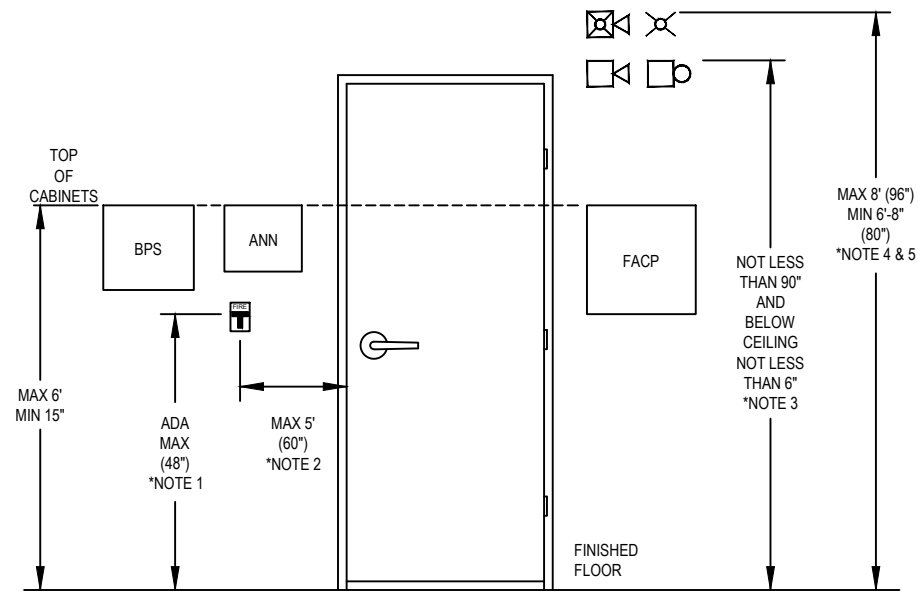
SHEET DESCRIPTION:
FIRE ALARM SYSTEM COVER SHEET

DRAWN BY:	THAIS REZENDE
DATE:	10.21.2022
SCALE:	N.T.S

SHEET:
FA-00
 1 OF 18

TYPICAL MOUNTING HEIGHTS

1. NFPA 72 2019 17.15.6 THE OPERABLE PART OF EACH MANUAL FIRE ALARM BOX SHALL BE NOT LESS THAN 42in AND NOT MORE THAN 48in FROM THE FINISHED FLOOR.
2. NFPA 72 2019 17.15.9.4 MANUAL FIRE ALARM BOXES SHALL BE LOCATED WITHIN 5ft OF EACH EXIT DOORWAY ON EACH FLOOR.
3. NFPA 72 2019 18.4.9.1 IF CEILING HEIGHTS ALLOW, AND UNLESS OTHERWISE PERMITTED BY 18.4.9.2 THROUGH 18.4.9.5, WALL-MOUNTED APPLIANCES SHALL HAVE THEIR TOPS ABOVE THE FINISHED FLOORS AT HEIGHTS OF NOT LESS THAN 90in AND BELOW THE FINISHED CEILINGS AT DISTANCES OF NOT LESS THAN 6in.
4. NFPA 72 2019 18.4.9.3 IF COMBINATION AUDIBLE/ VISIBLE APPLIANCES ARE INSTALLED, THE LOCATION OF THE INSTALLED APPLIANCE SHALL BE DETERMINED BY THE REQUIREMENTS OF 18.5.5. (SEE NOTE 5).
5. NFPA 72 2019 18.5.5.1 WALL-MOUNTED APPLIANCES SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80in. AND NOT GREATER THAN 96in ABOVE THE FINISHED FLOOR OR AT THE MOUNTING HEIGHT SPECIFIED USING THE PERFORMANCE BASED ALTERNATIVE OF 18.5.5.7.



EVENT

EVENT	ACTION		
	TROUBLE SIGNAL @ FIRE ALARM CONTROL PANEL	ALARM SIGNAL @ FIRE ALARM CONTROL PANEL	ACTIVATE NOTIFICATION DEVICES
SMOKE DETECTOR		●	●
EXPLOSION-PROOF SMOKE DETECTOR	●	●	●
FACP AC POWER FAILURE	●		
SYSTEM LOW BATTERY	●		
OPEN CIRCUIT	●		
GROUND FAULT	●		
NOTIFICATION APPLIANCE CIRCUIT SHORT	●		

NOTE: ALL SIGNALS WILL BE SENT TO A CENTRAL STATION

PROJECT

PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

REVISION:

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SHEET DESCRIPTION:

FIRE ALARM SYSTEM
SEQUENCE OF
OPERATION

DRAWN BY: THAIS REZENDE

DATE: 10.21.2022

SCALE: N.T.S

SHEET:

FA-01








2 OF 18

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





SHEET DESCRIPTION:
FIRE ALARM SYSTEM
EQUIPMENT LIST,
CABLE & WIRE LEGEND

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: N.T.S.

SHEET:
FA-02
3 OF 18

EQUIPMENT LIST						
SYMBOL	QTY	MANUFACTURER	PART NO	DESCRIPTION	AGENCY LISTING	
 FACU	1	NOTIFIER	NFS-320	INTELLIGENT ADDRESSABLE FIRE ALARM CONTROL PANEL	UL/ULC Listed: S635 - FM Approved - CSFM: 7165-0028:0243 - MEA: 128-07 - Fire Dept. of New York: COA# 6212 - City of Chicago - ULC Listed: S527-11 - US Coast Guard 161.002/50/0, 161.002/55/0 - Lloyd's Register 11/600013 - American Bureau of Shipping (ABS) Type Approval.	
 CLSS	1	HONEYWELL	HON-CGW-MBB	CONNECTED LIFE SAFETY SERVICES (CLSS) GATEWAY FOR PLC INTERFACE	UL: File No. S35608- CSFM: 7300-1637:0504 - FDNY: COA# 2021-TMCOAP-006279-AMND - FCC ID: PV3CGWMB - IC: 1609A-CGWMB.	
 SS 120v	1	DITEK	DTK-120HW	OVERVOLTAGE PROTECTOR CIRCUIT PROTECTION-120V	UL 1449, 3rd Edition, cUL	
 AIM XP10-M	1	NOTIFIER	XP10-M	TEN INPUT MONITOR MODULE	UL Listed: S635 - ULC Listed: S635 (XP10-MA) - CSFM approved: 7300-0028:219 - FM approved - MEA approved: 43-02-E - Maryland State Fire Marshal approved: Permit #2106.	
 S XP	2	NOTIFIER	30-3013	EXPLOSION-PROOF SMOKE DETECTOR	FM Approved (Class 1 Div 1 Groups B, C, D T4 - Class 1 Div 2 Groups A, B, C, D, T4 - Class 1 Zone1 AWX db ia IIC T4 Gb) - IEC/IECx (FMG 15.0014X - Ex db ia IIC T4 Gb).	
 S	3	NOTIFIER	FSV-951R W/B300-6 BASE	VERY INTELLIGENT EARLY WARNING SMOKE DETECTOR, STANDARD BASE	UL/ULC Listed: (S911, S1115, S747) - FM Approved: (450568, 3062622) - CSFM: (7272-0028:0506, 7300-1653:0109).	
 WP	2	GENTEX	WGEC24-75WR	HORN STROBE, RED, WALL, OUTDOOR	ANSI/UL Listed:(464, 1638) - CAN/ULC Listed:(S525, S526) - CSFM: (7135-0569:122, 7300-0569:124) - MEA approved: 285-91E-XVI.	

CABLE AND WIRE LEGEND						
LABEL	PART NO	AWG	RESISTANCE (Ω/KFT)	DESCRIPTION	TOTAL LENGTH	
RS232	18/2 FPLP (CLSS)	18	6.5	CLSS - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	3'	
D	18/2 FPLP (SLC)	18	6.5	SLC - 2 COND. SOLID COPPER FPLP ADDRESSABLE UNSHIELDED	14'	
P	14/2 FPLP (AUX)	14	2.6	AUX POWER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	38'	
V	14/2 FPLP (NAC)	14	2.6	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	17'	
Z	18/2 FPLP (IDC)	18	6.5	IDC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	106'	



PANEL FACU-1 (NFS-320) BATTERY CALCULATION								
(SECONDARY POWER SOURCE REQUIREMENTS)								
PANEL POWER SUPPLY MAX CURRENT = 6A				TOTAL USED CAPACITY (IN ALARM) = 1.4445A (24.08 %)				
				STANDBY CURRENT (AMPS)		SECONDARY ALARM CURRENT (AMPS)		
PANEL COMPONENTS		QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	TOTAL	
		1	CPS-24	Fire Alarm Power Supply Card	0	0	0	
		1	CPU-320	NFS-320 Fire Alarm Control Panel Main Board (Central Processing Unit)	0.39	0.39	0.39	
		1	KDM-R2	Keypad/Display Unit	0.1	0.1	0.1	
CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	TOTAL (A)	
FACU-1•AUX	 XP	2	30-3013	Explosion-Proof Smoke Detector	0.115	0.23	0.292	
		1	HON-CGW-MBB	CLSS Gateway with the enclosure	0.14	0.14	0.25	
FACU-1•L1		3	FSV-951R w/B300-6 Base	Very Intelligent Early Warning smoke detector. Standard Base	0.0002	0.0006	0.0135	
	 XP10-M	1	XP10-M	Ten Input Monitor Module	0.003	0.003	0.003	
FACU-1•N1		2	WGEC24-75WR	Horn Strobe, Red, Wall, Outdoor 75cd	0	0	0.396	
FACU-1•NUP (RS232)		1	HON-CGW-MBB	CLSS Gateway with the enclosure	0	0	0	
					TOTAL STANDBY (A)	0.8636	TOTAL ALARM (A)	1.4445
					REQUIRED STANDBY TIME = 24 HOURS			
					REQUIRED ALARM TIME = 5 MINUTES			
SECONDARY STANDBY LOAD (A)				0.8636	24	20.73		
SECONDARY ALARM LOAD (A)				1.4445	0.08	0.12		
STANDBY AND ALARM SUBTOTAL (AMP HOURS)					20.85			
DERATING FACTOR					1.2			
SECONDARY LOAD REQUIREMENTS (AMP HOURS)					25.02			
PROVIDE (2) 12V 26AH BATTERIES								


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SHEET DESCRIPTION:
FIRE ALARM SYSTEM
BATTERY CALCULATION

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: N.T.S

SHEET:
FA-03
4 OF 18

FACU-1 AUX LUMP SUM REPORT				CIRCUIT SETTINGS		TOTALS	
				Starting Calculation Voltage:	20.4	Max. Voltage Drop:	0.1
Min. Operational Voltage:	16	End Of Line Voltage:	20.3				
Max. Circuit Current (A):	5	Voltage Drop Percent:	0.50 %				
Wire Resistance (Ω/kFt):	2.6	Total Circuit Current (A):	0.542				
Circuit Wiring Properties: 'P' 14/2 FPLP (AUX) 14 AWG, AUX POWER - 2 Cond. Solid Copper FPLP Analog Unshielded				Total Circuit Length (Ft):	36	Spare Current (A):	4.458
Distance measured using drawn segment lengths with 10.00 % additional length calculated				Total Circuit Resistance (Ω):	0.189646	Spare Current (A) Percent:	89.16 %
DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)	
	 XP	30-3013	Explosion-Proof Smoke Detector	2	0.146	0.292	
	 CLSS	HON-CGW-MBB	CLSS Gateway with the enclosure	1	0.25	0.25	
Calculation Methods:							
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)							
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)							

FACU-1 N1 LUMP SUM REPORT				CIRCUIT SETTINGS		TOTALS	
				Starting Calculation Voltage:	20.4	Max. Voltage Drop:	0.04
Min. Operational Voltage:	16	End Of Line Voltage:	20.36				
Max. Circuit Current (A):	3	Voltage Drop Percent:	0.17 %				
Wire Resistance (Ω/kFt):	2.6	Total Circuit Current (A):	0.396				
Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded				Total Circuit Length (Ft):	17	Spare Current (A):	2.604
Distance measured using drawn segment lengths with 10.00 % additional length calculated				Total Circuit Resistance (Ω):	0.090058	Spare Current (A) Percent:	86.80 %
DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)	
	 WP	WGEC24-75WR	Horn Strobe, Red, Wall, Outdoor 75cd	2	0.198	0.396	
Calculation Methods:							
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)							
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)							

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SHEET DESCRIPTION:
FIRE ALARM SYSTEM
VOLTAGE DROP

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: N.T.S.

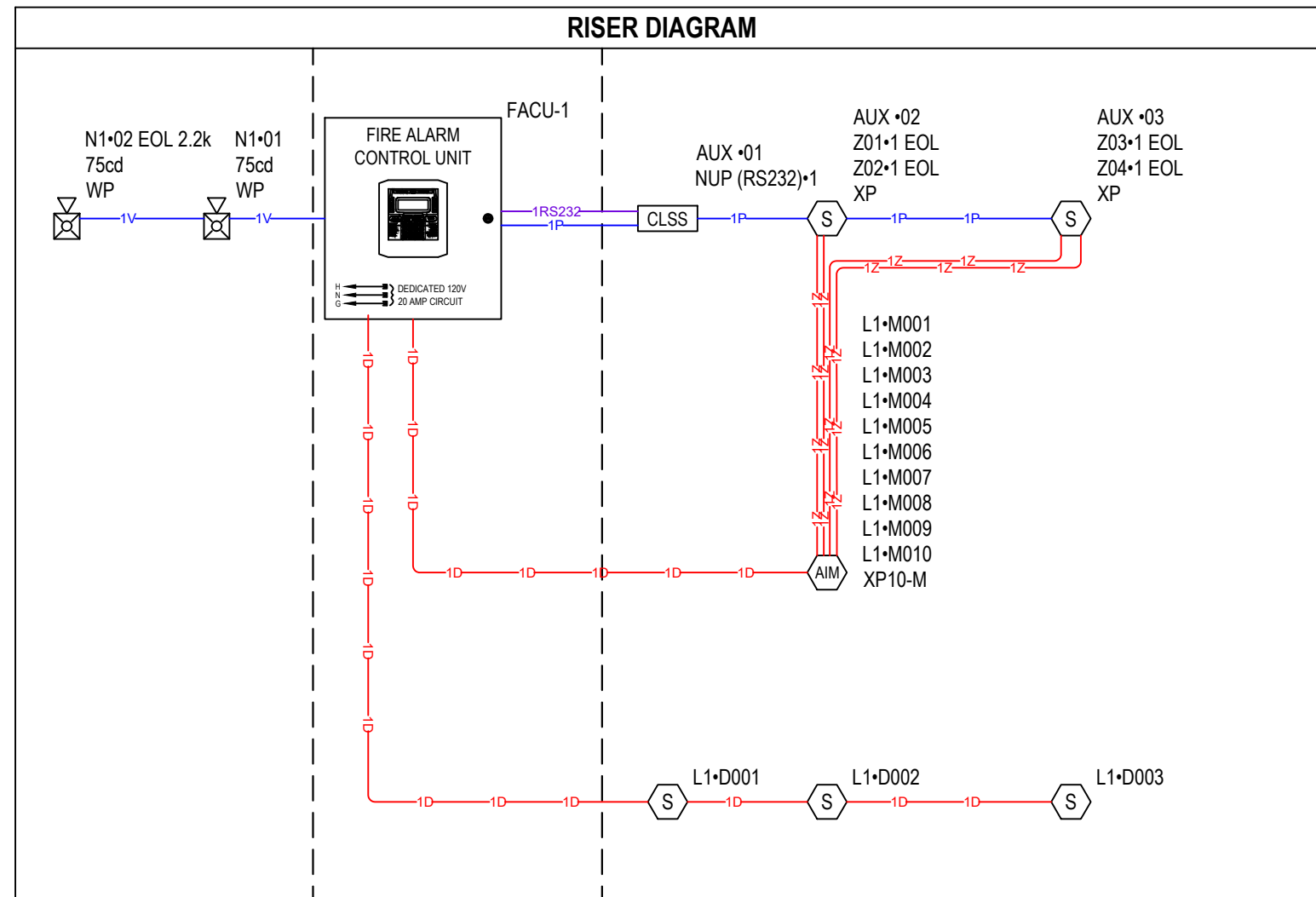
SHEET:
FA-04
5 OF 18

MODULE FUNCTION	
L1•M001	Z01 - Explosion-Proof Smoke Detector 1 - Alarm
L1•M002	Z02 - Explosion-Proof Smoke Detector 1 - Trouble
L1•M003	Z03 - Explosion-Proof Smoke Detector 2 - Alarm
L1•M004	Z04 - Explosion-Proof Smoke Detector 2 - Trouble
L1•M005	Spare
L1•M006	Spare
L1•M007	Spare
L1•M008	Spare
L1•M009	Spare
L1•M010	Spare

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SHEET DESCRIPTION:
**FIRE ALARM SYSTEM
 MODULE FUNCTION**

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: N.T.S



PROJECT

PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

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SHEET DESCRIPTION:

FIRE ALARM SYSTEM
RISER DIAGRAM

DRAWN BY: THAIS REZENDE

DATE: 10.21.2022

SCALE: N.T.S

SHEET:

FA-06

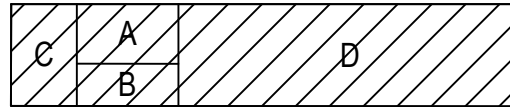
7 OF 18

NOTES :

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1" EXLOSION PROOF CONDUIT FOR FIRE ALARM WIRING IF DETERMINED CLASS 1 DIVISION 1 CLASSIFICATION BY OWNER

KEYPLAN



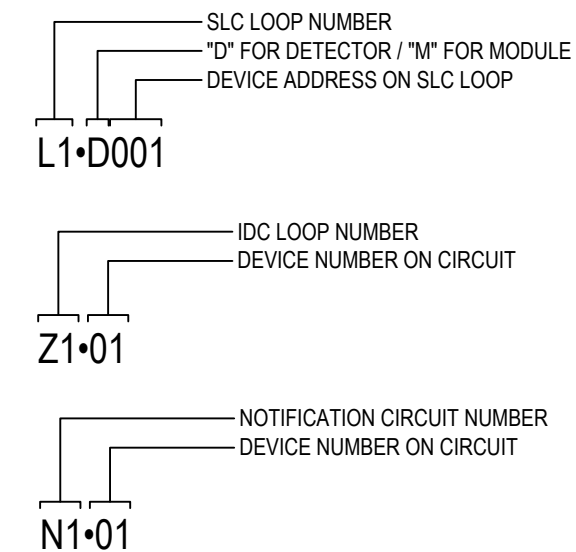
DEVICE LEGEND

SYMBOL	DESCRIPTION
[FACU]	INTELLIGENT ADDRESSABLE FIRE ALARM CONTROL PANEL
[CLSS]	CONNECTED LIFE SAFETY SERVICES (CLSS) GATEWAY FOR PLC INTERFACE
[SS] 120v	OVERVOLTAGE PROTECTOR CIRCUIT PROTECTION-120V
[AIM] XP10-M	TEN INPUT MONITOR MODULE
[S] XP	EXPLOSION-PROOF SMOKE DETECTOR
[S]	VERY INTELLIGENT EARLY WARNING SMOKE DETECTOR, STANDARD BASE
[WP]	HORN STROBE, RED, WALL, OUTDOOR

CABLE AND WIRE LEGEND

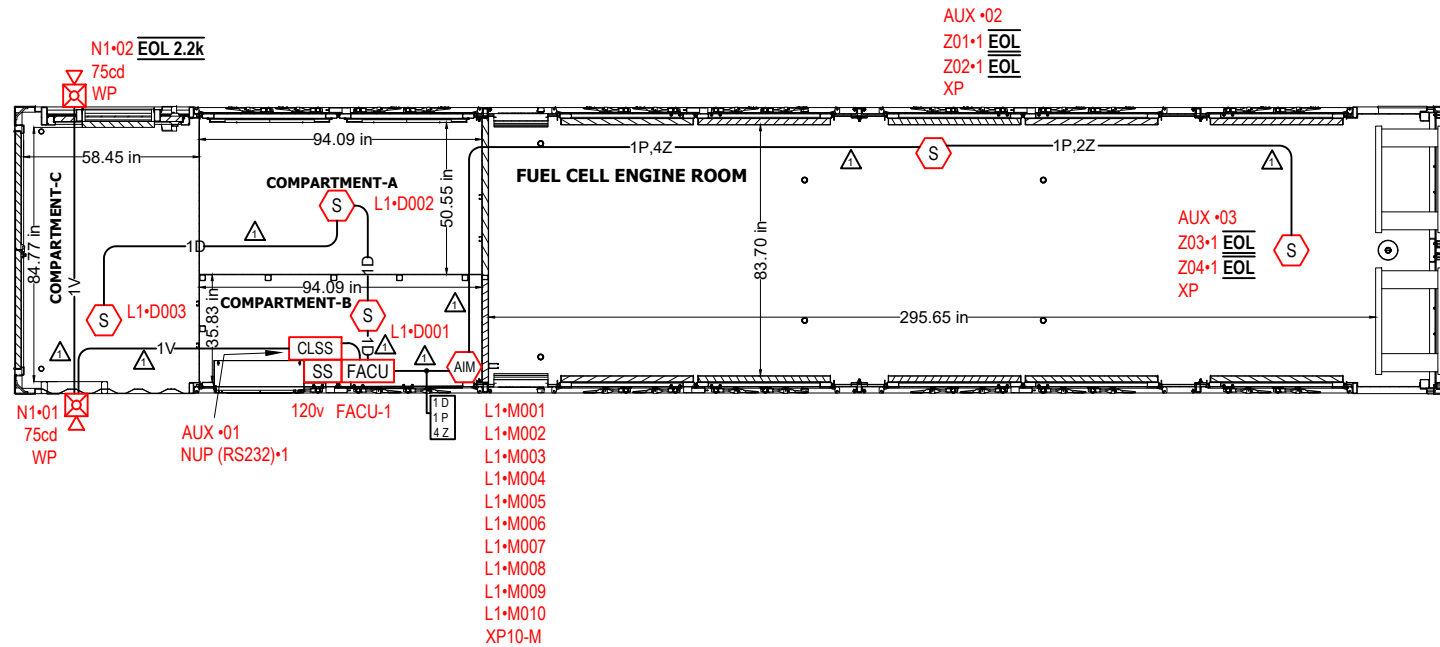
LABEL	AWG	DESCRIPTION
RS232	18	CLSS - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	18	SLC - 2 COND. SOLID COPPER FPLP ADDRESSABLE UNSHIELDED
P	14	AUX POWER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
Z	18	IDC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED

ADDRESS LABEL CLARIFICATION



FRONT END
(GOOSENECK TUNNEL)

REAR END
(DOUBLE FANS)



PROJECT
PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

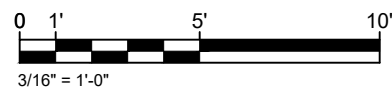
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SHEET DESCRIPTION:
FIRE ALARM SYSTEM
HP STATIONARY - 1MW
HYDROGEN ENGINE
ENCLOSURE PLAN
DIMENSIONS

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: 3/16" = 1'-0"

SHEET:
FA-07
8 OF 18

1 HP STATIONARY - 1MW HYDROGEN ENGINE ENCLOSURE PLAN - DIMENSIONS



NOTES :



1" EXLOSION PROOF CONDUIT FOR FIRE ALARM WIRING IF DETERMINED CLASS 1 DIVISION 1 CLASSIFICATION BY OWNER

KEYPLAN



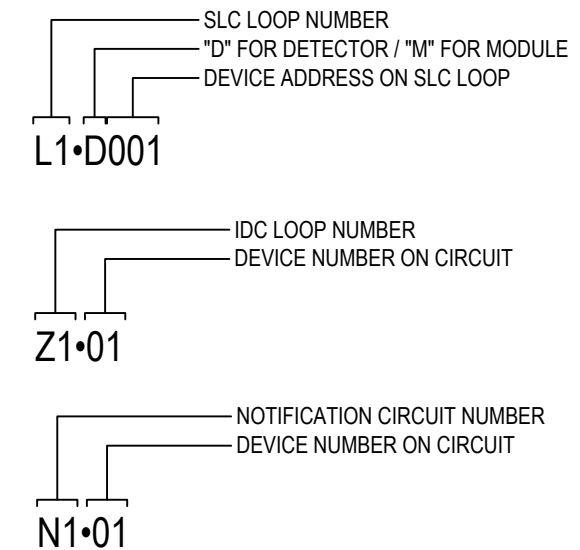
DEVICE LEGEND

SYMBOL	DESCRIPTION
[FACU]	INTELLIGENT ADDRESSABLE FIRE ALARM CONTROL PANEL
[CLSS]	CONNECTED LIFE SAFETY SERVICES (CLSS) GATEWAY FOR PLC INTERFACE
[SS] 120v	OVERVOLTAGE PROTECTOR CIRCUIT PROTECTION-120V
[AIM] XP10-M	TEN INPUT MONITOR MODULE
[S] XP	EXPLOSION-PROOF SMOKE DETECTOR
[S]	VERY INTELLIGENT EARLY WARNING SMOKE DETECTOR, STANDARD BASE
[WP]	HORN STROBE, RED, WALL, OUTDOOR

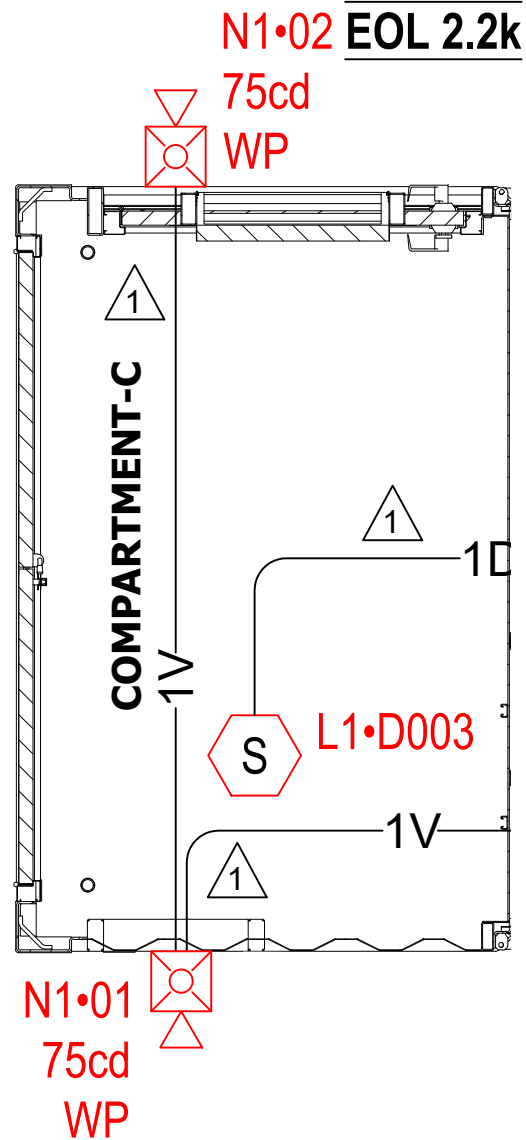
CABLE AND WIRE LEGEND

LABEL	AWG	DESCRIPTION
RS232	18	CLSS - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	18	SLC - 2 COND. SOLID COPPER FPLP ADDRESSABLE UNSHIELDED
P	14	AUX POWER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
Z	18	IDC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED

ADDRESS LABEL CLARIFICATION



**FRONT END
(GOOSENECK TUNNEL)**



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CONTINUE ON PAGE FA-10

PROJECT
PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

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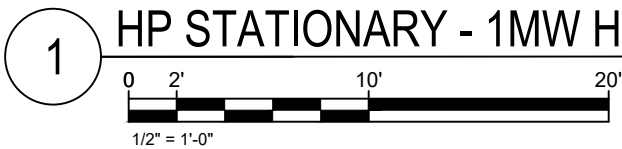
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SHEET DESCRIPTION:
FIRE ALARM SYSTEM
HP STATIONARY - 1MW
HYDROGEN ENGINE
ENCLOSURE PLAN
AREA C

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: 1/2" = 1'-0"

SHEET:
FA-08
9 OF 18

HP STATIONARY - 1MW HYDROGEN ENGINE ENCLOSURE PLAN - AREA C

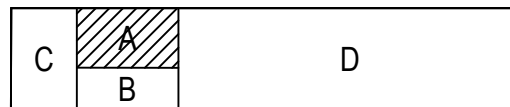


NOTES :



1" EXLOSION PROOF CONDUIT FOR FIRE ALARM WIRING IF DETERMINED CLASS 1 DIVISION 1 CLASSIFICATION BY OWNER

KEYPLAN



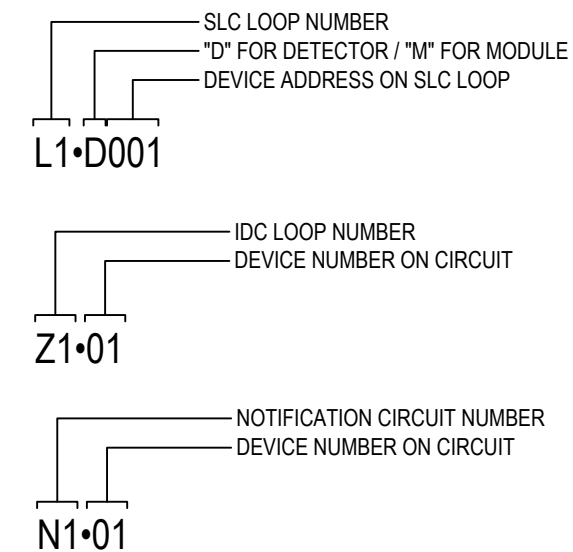
DEVICE LEGEND

SYMBOL	DESCRIPTION
[FACU]	INTELLIGENT ADDRESSABLE FIRE ALARM CONTROL PANEL
[CLSS]	CONNECTED LIFE SAFETY SERVICES (CLSS) GATEWAY FOR PLC INTERFACE
[SS] 120v	OVERVOLTAGE PROTECTOR CIRCUIT PROTECTION-120V
[AIM] XP10-M	TEN INPUT MONITOR MODULE
[S] XP	EXPLOSION-PROOF SMOKE DETECTOR
[S]	VERY INTELLIGENT EARLY WARNING SMOKE DETECTOR, STANDARD BASE
[WP]	HORN STROBE, RED, WALL, OUTDOOR

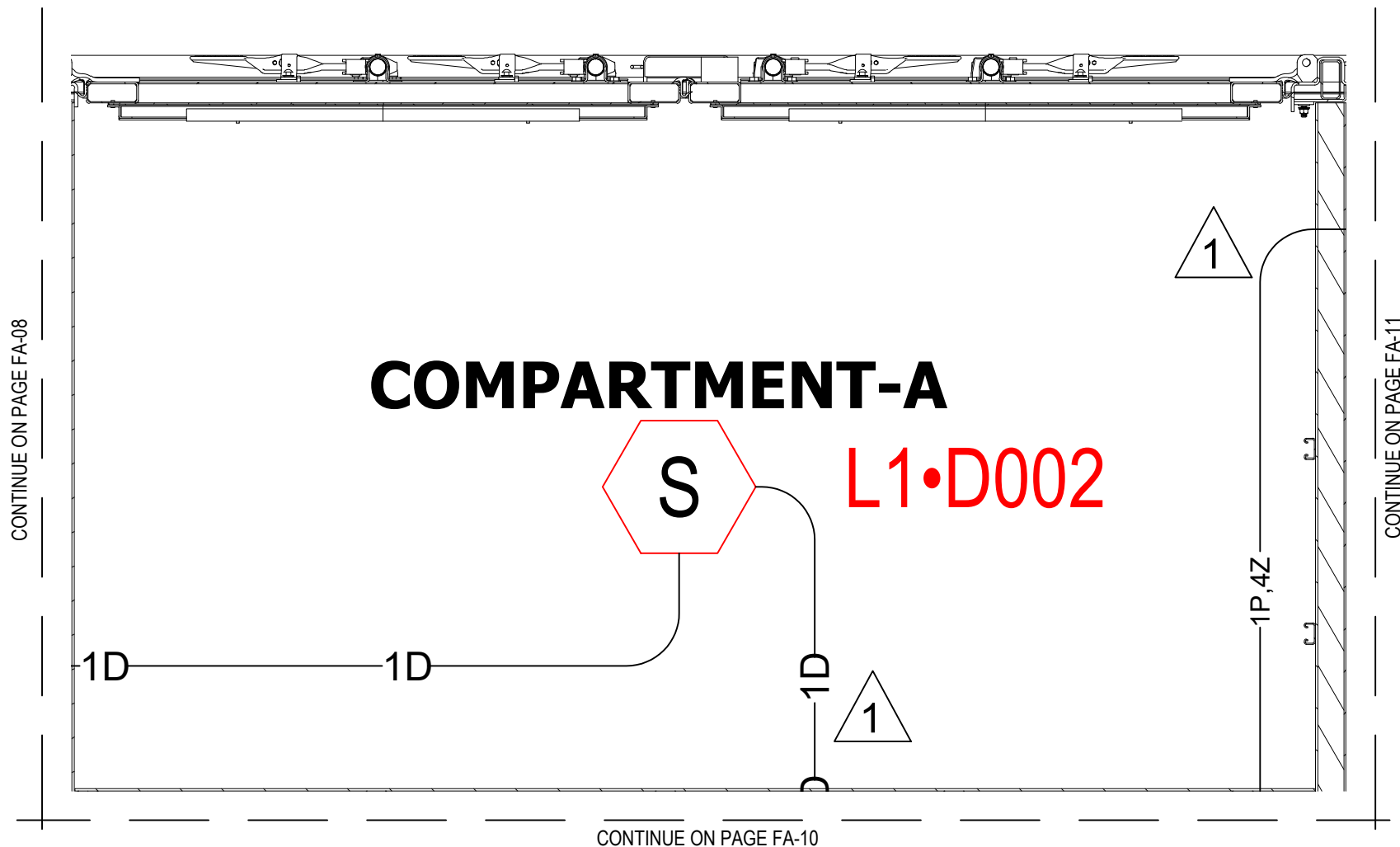
CABLE AND WIRE LEGEND

LABEL	AWG	DESCRIPTION
RS232	18	CLSS - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	18	SLC - 2 COND. SOLID COPPER FPLP ADDRESSABLE UNSHIELDED
P	14	AUX POWER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
Z	18	IDC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED

ADDRESS LABEL CLARIFICATION



COMPARTMENT-A



PROJECT
PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

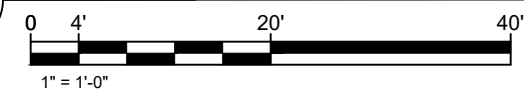
REVISION	FIRST RELEASE
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SHEET DESCRIPTION:
FIRE ALARM SYSTEM
HP STATIONARY - 1MW
HYDROGEN ENGINE
ENCLOSURE PLAN
AREA A

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: 1" = 1'-0"

SHEET:
FA-09
10 OF 18

1 HP STATIONARY - 1MW HYDROGEN ENGINE ENCLOSURE PLAN - AREA A

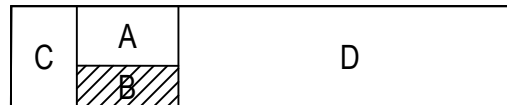


NOTES :



1" EXLOSION PROOF CONDUIT FOR FIRE ALARM WIRING IF DETERMINED CLASS 1 DIVISION 1 CLASSIFICATION BY OWNER

KEYPLAN



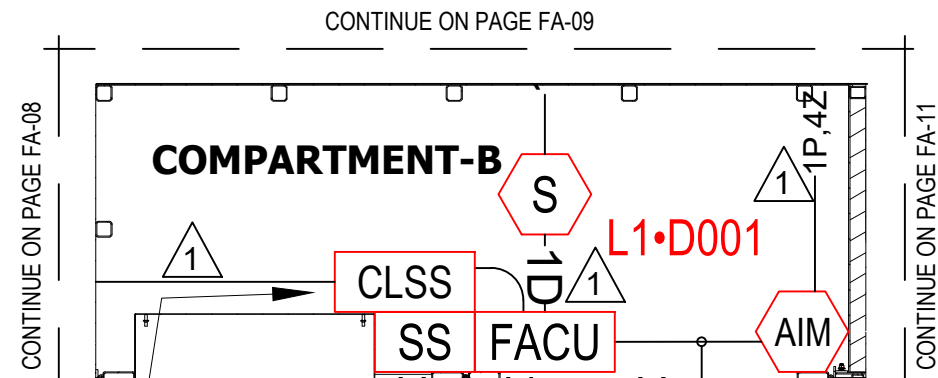
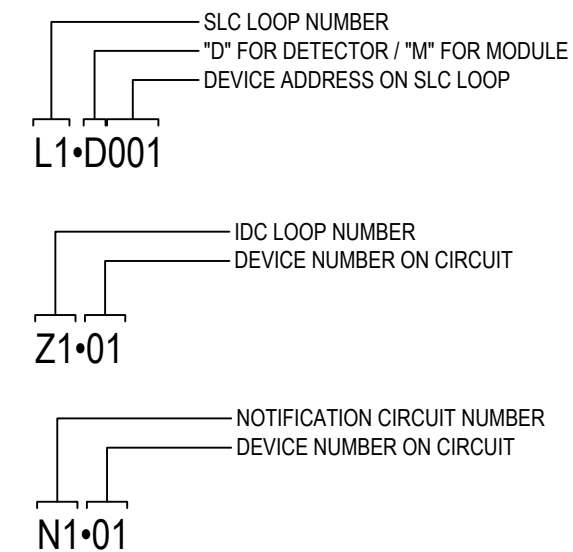
DEVICE LEGEND

SYMBOL	DESCRIPTION
[FACU]	INTELLIGENT ADDRESSABLE FIRE ALARM CONTROL PANEL
[CLSS]	CONNECTED LIFE SAFETY SERVICES (CLSS) GATEWAY FOR PLC INTERFACE
[SS] 120v	OVERVOLTAGE PROTECTOR CIRCUIT PROTECTION-120V
[AIM] XP10-M	TEN INPUT MONITOR MODULE
[S] XP	EXPLOSION-PROOF SMOKE DETECTOR
[S]	VERY INTELLIGENT EARLY WARNING SMOKE DETECTOR, STANDARD BASE
[WP]	HORN STROBE, RED, WALL, OUTDOOR

CABLE AND WIRE LEGEND

LABEL	AWG	DESCRIPTION
RS232	18	CLSS - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	18	SLC - 2 COND. SOLID COPPER FPLP ADDRESSABLE UNSHIELDED
P	14	AUX POWER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
Z	18	IDC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED

ADDRESS LABEL CLARIFICATION



- AUX •01
- NUP (RS232)•1
- 120v FACU-1
- L1•D001
- 1 D
- 1 P
- 4 Z
- L1•M001
- L1•M002
- L1•M003
- L1•M004
- L1•M005
- L1•M006
- L1•M007
- L1•M008
- L1•M009
- L1•M010
- XP10-M

PROJECT
PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

REVISION:
FIRST RELEASE
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△

SHEET DESCRIPTION:
FIRE ALARM SYSTEM
HP STATIONARY - 1MW
HYDROGEN ENGINE
ENCLOSURE PLAN
AREA B

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: 1/2" = 1'-0"

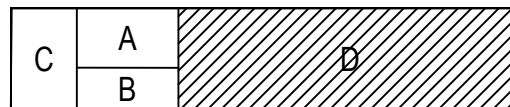
SHEET:
FA-10
11 OF 18

NOTES :



1" EXLOSION PROOF CONDUIT FOR FIRE ALARM WIRING IF DETERMINED CLASS 1 DIVISION 1 CLASSIFICATION BY OWNER

KEYPLAN



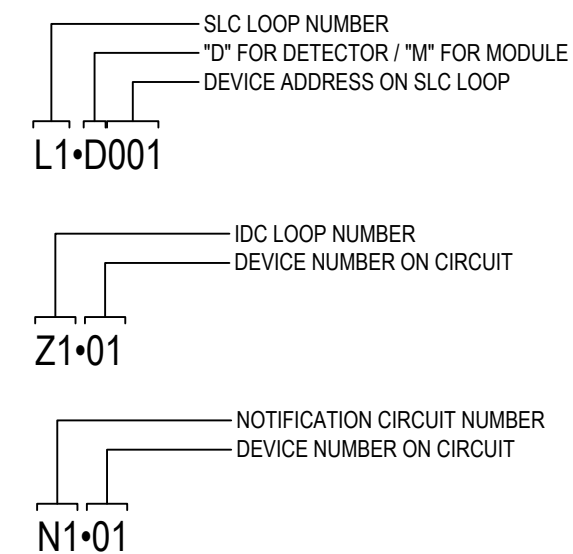
DEVICE LEGEND

SYMBOL	DESCRIPTION
[FACU]	INTELLIGENT ADDRESSABLE FIRE ALARM CONTROL PANEL
[CLSS]	CONNECTED LIFE SAFETY SERVICES (CLSS) GATEWAY FOR PLC INTERFACE
[SS] 120v	OVERVOLTAGE PROTECTOR CIRCUIT PROTECTION-120V
[AIM] XP10-M	TEN INPUT MONITOR MODULE
[S] XP	EXPLOSION-PROOF SMOKE DETECTOR
[S]	VERY INTELLIGENT EARLY WARNING SMOKE DETECTOR, STANDARD BASE
[WP]	HORN STROBE, RED, WALL, OUTDOOR

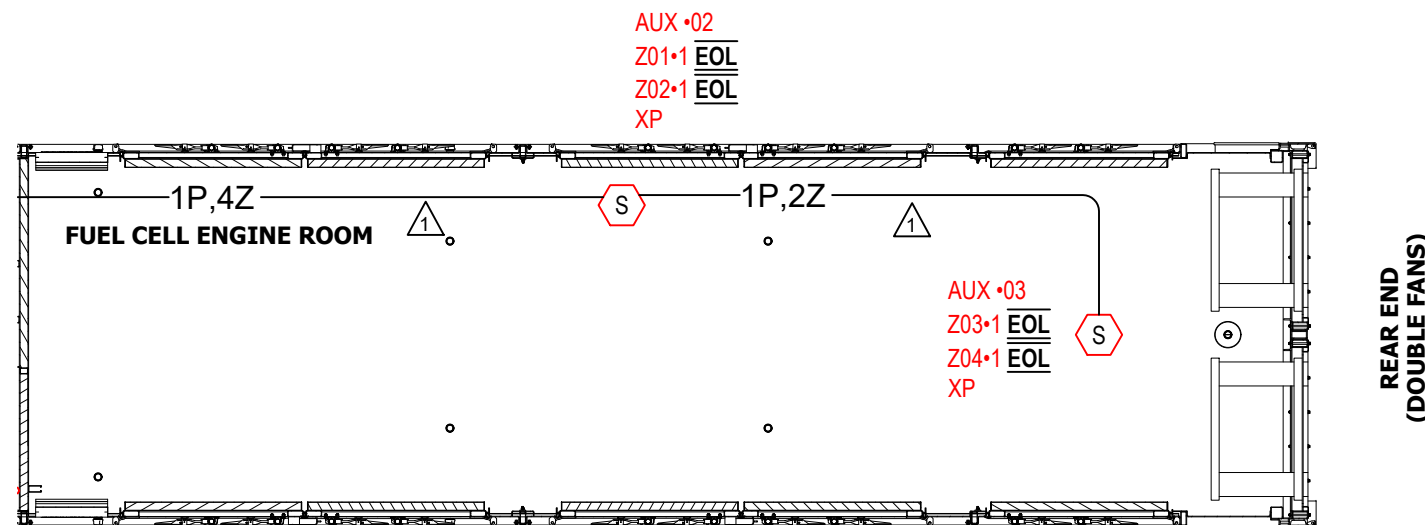
CABLE AND WIRE LEGEND

LABEL	AWG	DESCRIPTION
RS232	18	CLSS - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	18	SLC - 2 COND. SOLID COPPER FPLP ADDRESSABLE UNSHIELDED
P	14	AUX POWER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
Z	18	IDC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED

ADDRESS LABEL CLARIFICATION



CONTINUE ON PAGE FA-10



PROJECT
PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

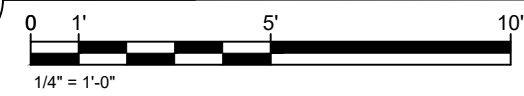
REVISION:
FIRST RELEASE
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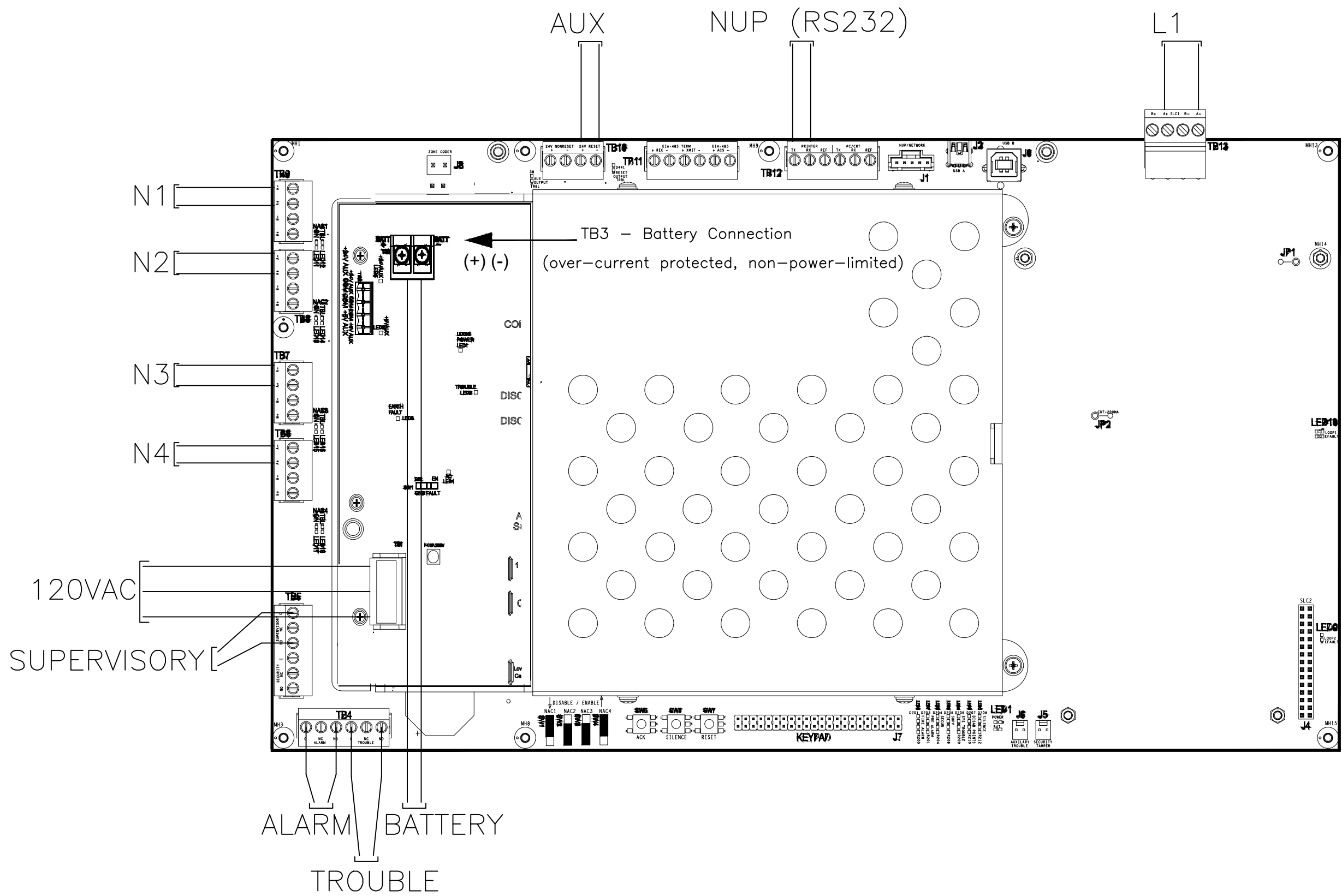
SHEET DESCRIPTION:
FIRE ALARM SYSTEM
HP STATIONARY - 1MW
HYDROGEN ENGINE
ENCLOSURE PLAN
AREA D

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: 1/4" = 1'-0"

SHEET:
FA-11
12 OF 18

1 HP STATIONARY - 1MW HYDROGEN ENGINE ENCLOSURE PLAN - AREA D





NFS-320 / FACP-1 WIRING
 NOT TO SCALE

PROJECT
PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

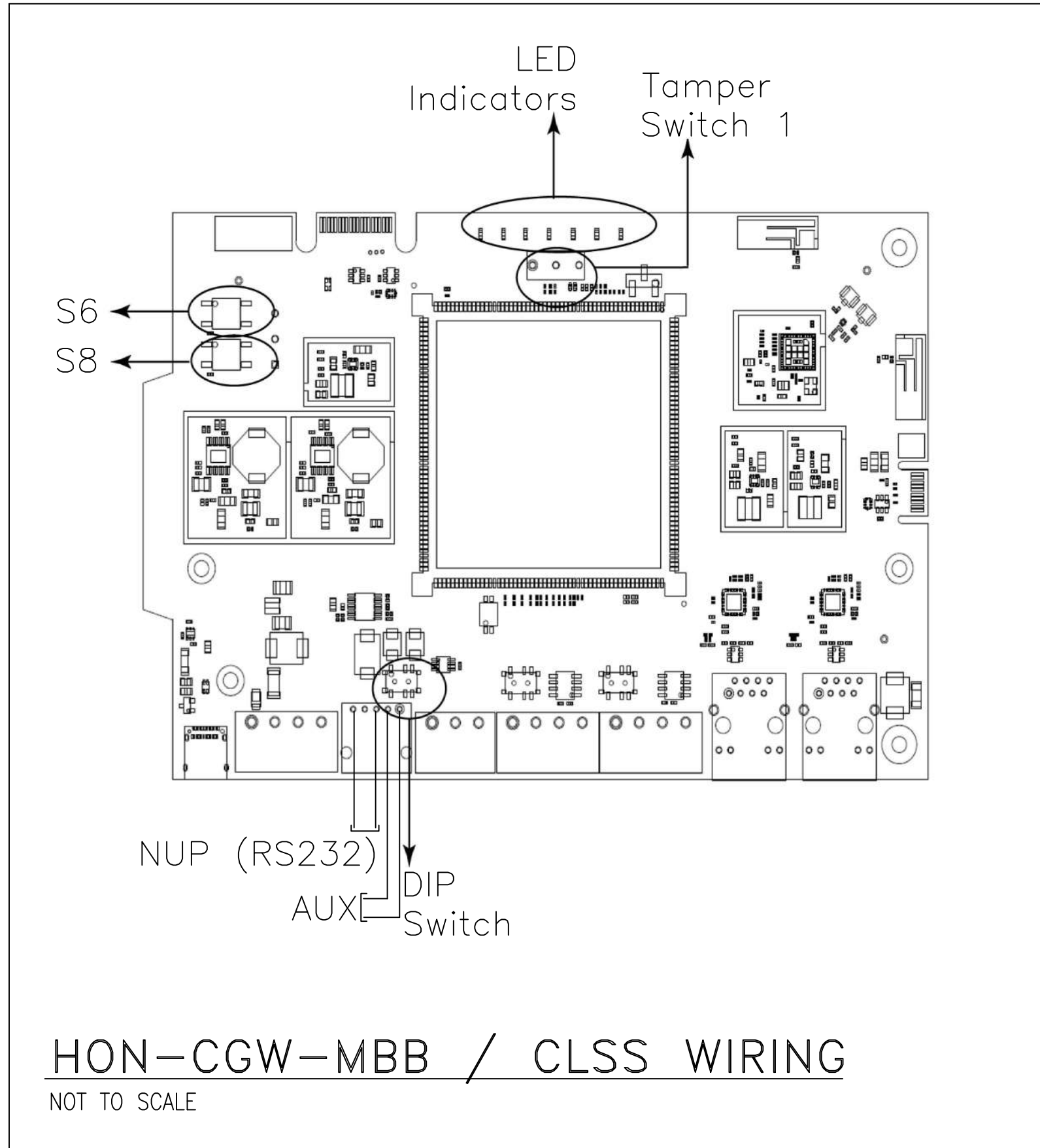
REVISION:

FIRST RELEASE	△
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SHEET DESCRIPTION:
 FIRE ALARM SYSTEM
 NFS-320 / FACP-1
 WIRING DIAGRAM

DRAWN BY: THAIS REZENDE
 DATE: 10.21.2022
 SCALE: N.T.S.

SHEET:
FA-12
 13 OF 18



PROJECT

PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

REVISION	FIRST RELEASE
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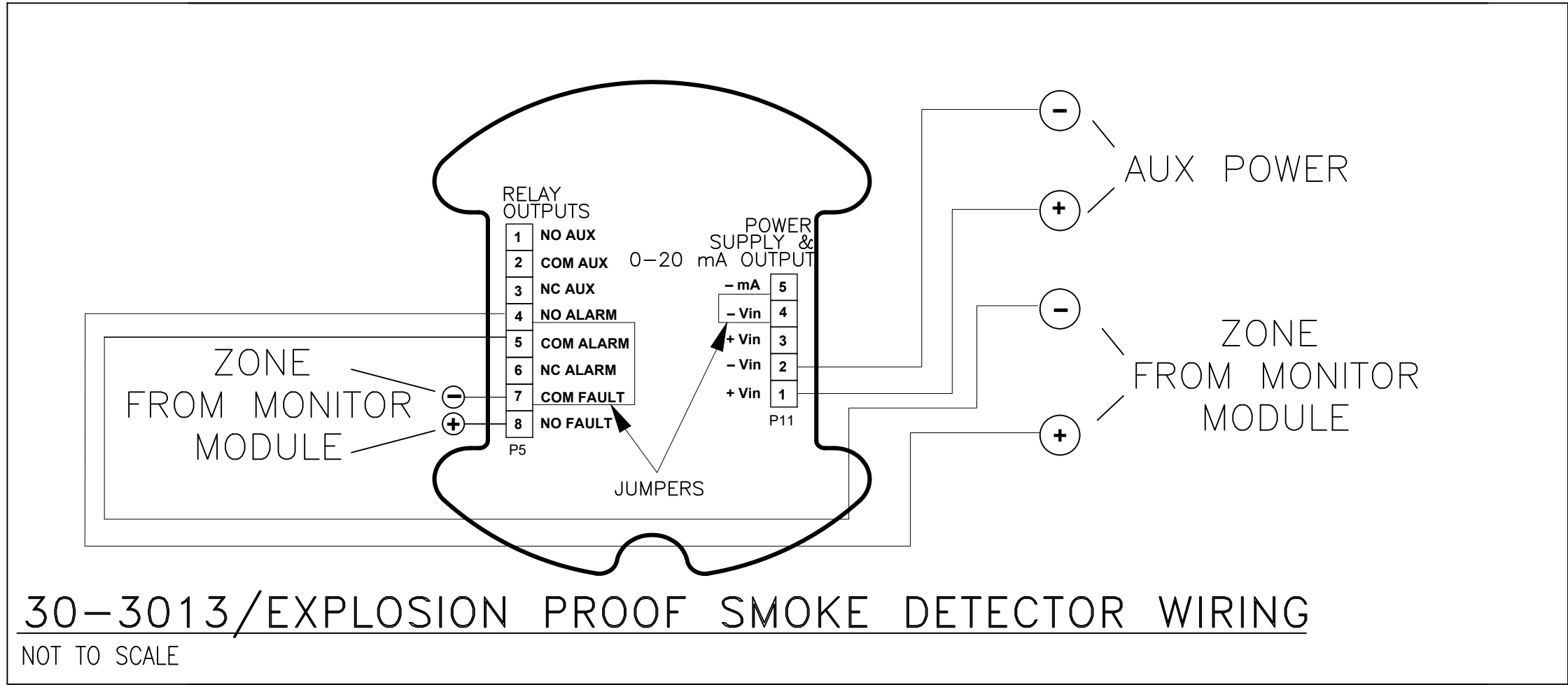
SHEET DESCRIPTION:

FIRE ALARM SYSTEM
HON-CGW-MBB / CLSS
WIRING DIAGRAM

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: N.T.S.

SHEET:

FA-13
14 OF 18



PROJECT
PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

REVISION
FIRST RELEASE
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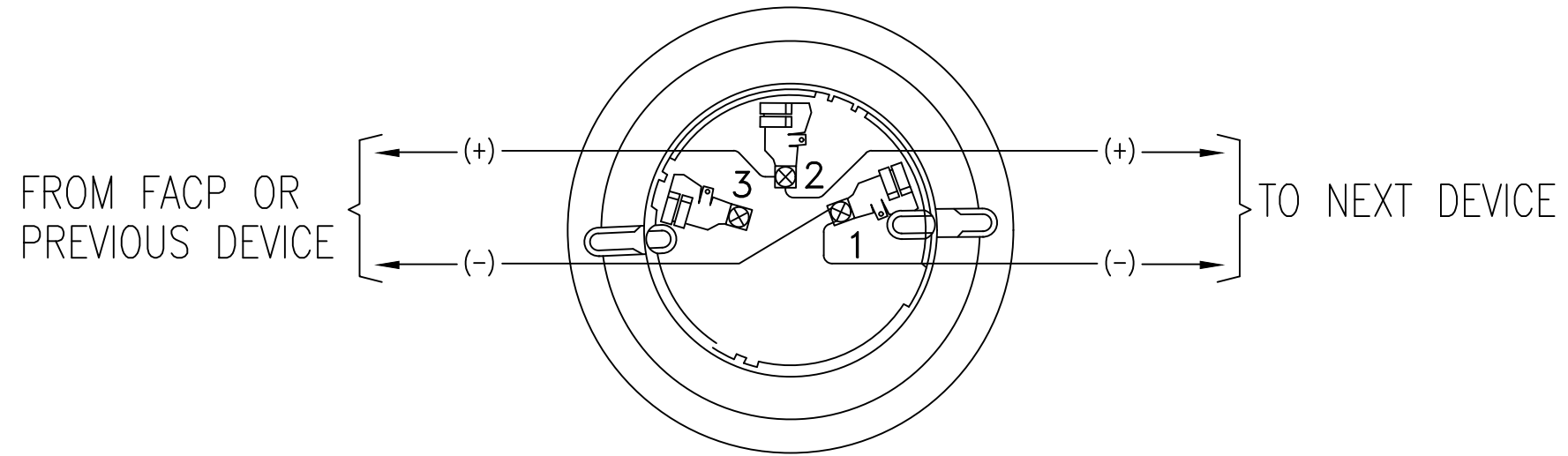
SHEET DESCRIPTION:
FIRE ALARM SYSTEM
30-3013 / EXPLOSION
PROOF SMOKE
DETECTOR
WIRING DIAGRAM

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: N.T.S

SHEET:
FA-14
15 OF 18

NOTE: DO NOT LOOP WIRE UNDER TERM 1 OR TERM 2. BREAK WIRE RUN TO PROVIDE SUPERVISION OF CONNECTIONS.

NOTE: SEE FLOORPLANS FOR DEVICE ADDRESS



SMOKE DETECTOR WIRING

NOT TO SCALE

NOTE: IF THIS IS THE LAST DEVICE, THE SLC DOES NOT REQUIRE AN END OF LINE RESISTOR. IF THE SLC IS CLASS A, RETURN THE LOOP WIRE TO THE FACP.

PROJECT

PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

REVISION
FIRST RELEASE
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SHEET DESCRIPTION:
FIRE ALARM SYSTEM
SMOKE DETECTOR
WIRING DIAGRAM

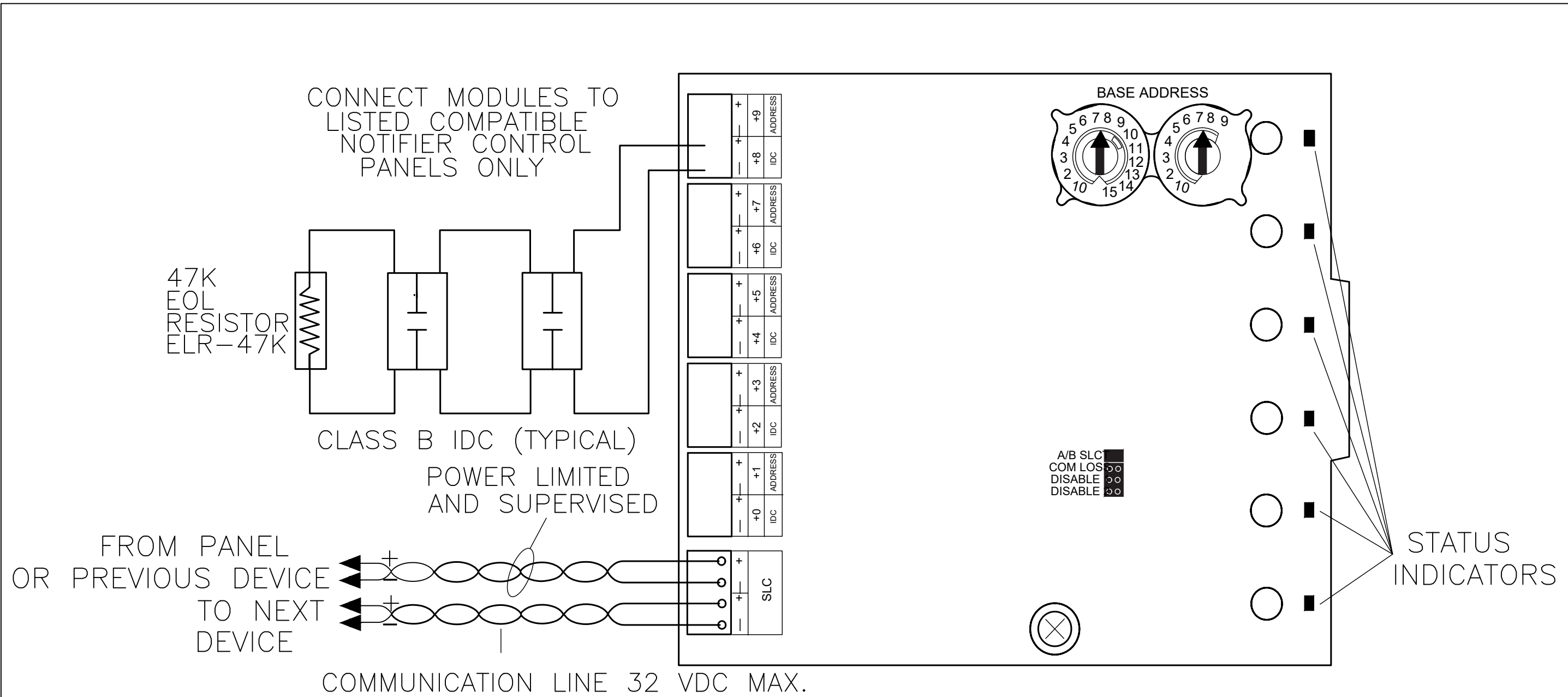
DRAWN BY: THAIS REZENDE

DATE: 10.21.2022

SCALE: N.T.S

SHEET:

FA-15
16 OF 18



XP10-M/TEN INPUT MONITOR MODULE

NOT TO SCALE

PROJECT
PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

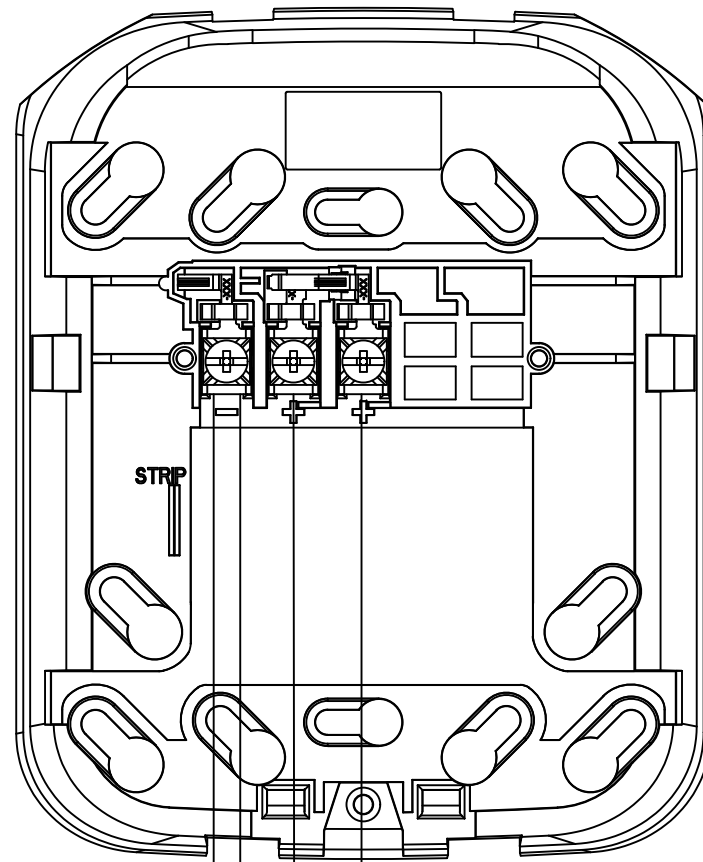
REVISION:

FIRST RELEASE
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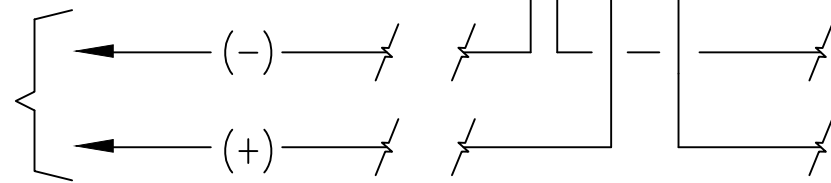
SHEET DESCRIPTION:
FIRE ALARM SYSTEM
XP10-M / TEN INPUT
MONITOR MODULE
WIRING DIAGRAM

DRAWN BY: THAIS REZENDE
DATE: 10.21.2022
SCALE: N.T.S.

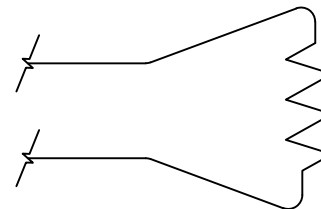
SHEET:
FA-16
17 OF 18



FROM FACP OR
REMOTE POWER
SUPPLY



TO NEXT
NOTIFICATION
APPLIANCE



PLACE EOL AT LAST NOTIFICATION
APPLIANCE ON THE CIRCUIT
ACCORDING TO THE FLOORPLANS.

WALL MOUNT HORN/STROBE WIRING

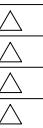
NOT TO SCALE

PROJECT

PLUG POWER - HYDROGEN ENGINE DESIGN LAYOUT

REVISION:

FIRST RELEASE



SHEET DESCRIPTION:

FIRE ALARM SYSTEM
WALL MOUNT
HORN/STROBE
WIRING DIAGRAM

DRAWN BY: THAIS REZENDE

DATE: 10.21.2022

SCALE: N.T.S

SHEET:

FA-17
18 OF 18

SCOPE OF WORK

COSCO FIRE PROTECTION SHALL PROVIDE CONSULTATION, DESIGN, INSTALLATION, AND EQUIPMENT PER THE CONTRACTUAL AGREEMENTS OF THE PROJECT NAME AND PROJECT NUMBER IDENTIFIED WITHIN THE TITLE BLOCK, CONSISTING, BUT NOT LIMITED TO THE FOLLOWING:

REMOVE EXISTING CONVENTIONAL FIRE ALARM SYSTEM AND REPLACE WITH NEW ADDRESSABLE FIRE ALARM SYSTEM. OXYGEN AND HYDROGEN DETECTION SHALL BE CONNECTED AND CONTROLLED BY THE BUILDING FIRE ALARM SYSTEM. NEW NOTIFICATION DEVICES SHALL USE CLEAR LENS FOR FIRE ALARM ACTIVATION AND BLUE LENS FOR GAS/O2 ACTIVATION. INSTALLATION SHALL COMPLY WITH APPLICABLE CODES.

BUILDING AND PROJECT DATA

CBC BUILDING OCCUPANCY: INDUSTRIAL
 NUMBER OF STORIES: 5 (EXISTING)
 AUTOMATIC SPRINKLERS: N/A
 ADA COMPLIANT: NO
 TYPE OF SYSTEM: MANUAL FIRE ALARM
 SYSTEM DESIGNER: JOHN VENCILL
 NICET LEVEL IV FIRE ALARM SYSTEMS #121525
 P: 659-275-3795

MONITORING STATION: LOCAL FIRE ALARM SYSTEM

CODES

- CALIFORNIA BUILDING CODE, (CBC) 2019 EDITION
- CALIFORNIA FIRE CODE, (CFC) 2019 EDITION
- CALIFORNIA ELECTRICAL CODE, (CEC) 2019 EDITION
- NFPA CODES AND STANDARDS 72, 2016 EDITION
- NFPA CODES AND STANDARDS 70, 2017 EDITION
- CALIFORNIA STATE FIRE MARSHAL LISTING
- UNDERWRITERS LABORATORIES (UL)

GENERAL NOTES

- ALL FIRE ALARM WIRING AND CONDUIT SHALL BE IN ACCORDANCE WITH NFPA 70 AND 72, 2016 TITLE 24 BUILDING CODE, NEC, THE AUTHORITY HAVING JURISDICTION AND THE MANUFACTURERS REQUIREMENTS.
- ALL FIRE ALARM EQUIPMENT SHALL BE C.S.F.M AND U.L. LISTED.
- ALL JUNCTION BOXES SHALL BE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL 120VAC POWER REQUIREMENTS FOR THE FIRE ALARM SYSTEM UNLESS OTHERWISE NOTED.
- ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL FIRE ALARM TERMINAL CABINETS, JUNCTION BOXES, DEVICE BACKBOXES, UNLESS OTHERWISE NOTED.
- ALL BACKBOXES PROVIDED BY COSCO FIRE SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR.
- WIRING SHALL NOT BE LOOPED THROUGH DEVICES; ALL WIRING SHALL BE CUT FOR IN AND OUT.
- ALL DEVICE WIRING, AND ANNUNCIATOR PANELS SHALL BE SUPERVISED TO THE PRINCIPAL POINT OF ANNUNCIATION.
- THE FIRE ALARM CONTROL PANEL AND POWER SUPPLIES ARE NOT TO BE USED AS A TERMINAL CABINET OR WIREWAY.
- ALL FIELD WIRING MUST ENTER AT THE TOP AND NO LOWER THAN 8" FROM BOTTOM ON THE SIDES OF THE FIRE ALARM CONTROL PANEL.
- ALL FIRE ALARM WIRING MUST TEST FREE OF GROUNDS, SHORTS AND OPENS.
- T-TAPPING IS PROHIBITED FOR ALL CLASS A AND CLASS B CIRCUITS.
- ALL INDICATING APPLIANCE CIRCUITS SHALL BE WIRED WITH #12 AWG THHN/TW/N WIRE.
- ALL INITIATING DEVICES (ADDRESSABLE) SHALL BE WIRED WITH #18 AWG TP FPL WIRE.
- ALL AUDIOVISUAL DEVICES TO ACTIVATE UPON GENERAL ALARM.
- ALL DEVICES IN THE ALARM SYSTEM SHALL BE COMPATIBLE WITH THE FIRE ALARM CONTROL PANEL AND INSTALLED TO MANUFACTURERS SPECIFICATIONS.
- AUDIBILITY OF ALARM SHALL BE NOT LESS THAN 15db ABOVE AMBIENT SOUND THROUGHOUT AREA OF ALARM. AND SHALL BE CODE 3 TEMPORAL SOUND.
- FIRE ALARM SYSTEM WILL BE A LOCAL FIRE ALARM SYSTEM CENTRAL STATION MONITORING.
- TWO PHONE LINES ARE REQUIRED.
- ALL VISUAL DEVICES TO BE SYNCHRONIZED.
- SMOKE DETECTORS SHALL NOT BE PLACED WITHIN 3 FEET OF AC REGISTERS OR WITHIN 1 FOOT OF FLORESCENT LIGHT FIXTURES AND SPRINKLER HEADS.
- ALL EXTERIOR MOUNTED EQUIPMENT SHALL BE LISTED AS WEATHERPROOF INCLUDED BUT NOT LIMITED TO, VISUAL, AUDIO, SUPERVISORY AND INITIATING DEVICES. THEY SHALL BE NOTED ON THE PRINT WITH WP DESIGNATION FOR WEATHERPROOF. THEIR ELECTRICAL TERMINATION COUNTER PARTS SHALL ALSO BE LISTED AS SUCH AND ALSO NOTED IN THE JOB SPECIFICATIONS.

EQUIPMENT LIST						
SYMBOL	QTY	MANUFACTURER	PART NO	DESCRIPTION	CSFM	MOUNTING
	1	NOTIFIER	NFS2-3030D (FACP)	FACP, ADDRESSABLE, CPU2-3030D, 1X LCM-320, 1X LEM-320, AMPS-24, NCM-W	7165-0028.0224	PROVIDED
FAU	3	NOTIFIER	LEM-320	LOOP EXPANDER MODULE, PROVIDES EVEN NUMBERED SLC LOOPS	7165-0028.0224	IN FACU
	1	NOTIFIER	LCM-320	LOOP CONTROL MODULE	7165-0028.0224	IN FACU
	1	NOTIFIER	AMPS-24	ADDRESSABLE POWER SUPPLY/BATTERY CHARGER	7165-0028.0224	IN FACU
	1	SPACE AGE	ACE-11	FIRE ALARM DOCUMENT BOX	7300-0553.0110	PROVIDED
NAC	4	NOTIFIER	ACPS-610	6.0 A OR 10.0 A ADDRESSABLE CHARGING POWER SUPPLY	7165-0028.0224	PROVIDED
AM	15	NOTIFIER	FMM-1	ADDRESSABLE MONITOR MODULE W/ FLASHSCAN, SUPERVISES CLASS A OR CLASS B OF DRY CONTACT INPUT	7300-0028.0219	4"SQ. DEEP
AM	12	NOTIFIER	FMM-101	ADDRESSABLE MINI MONITOR MODULE	7300-0028.0219	4"SQ. DEEP
AM	34	NOTIFIER	FMM-4-20	ANALOG INPUT MODULE	7300-0028.0254	4"SQ. DEEP
COM	2	NOTIFIER	FCM-1	ADDRESSABLE CONTROL MODULE W/ FLASHSCAN, 1 CLASS A OR 1 CLASS B	7300-0028.0219	4" SQ. DEEP
COM	6	NOTIFIER	FCM-1-REL	RELEASING CONTROL MODULE	7300-0028.0249	4"SQ. DEEP
COM	1	NOTIFIER	FRM-1	ADDRESSABLE RELAY MODULE W/ FLASHSCAN, 2 FORM-C DRY CONTACTS	7300-0028.0219	4" SQ. DEEP
S	2	NOTIFIER	DNR W/FSP-951R	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R	3240-1653.0209	N/A
△	26	HONEYWELL	FLS100	FLAME DETECTOR, UV, 24 VDC	7210-2005.0500	PROVIDED
S	38	NOTIFIER	FSP-951 WB300-6	ADDRESSABLE LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR, FLASHSCAN ONLY.	7272-0028.0503	4" SQ. DEEP
GAS	8	HONEYWELL	SPSTAX01	GAS DETECTOR	N/A	PROVIDED
⊠	4	SYSTEM SENSOR	P2RL	2-WIRE, HORN STROBE, RED	7135-1653.0503	4" SQ. DEEP
⊠	7	SYSTEM SENSOR	P2RL	2-WIRE, WALL, HORN STROBE, RED	7135-1653.0503	4" SQ. DEEP
⊠	7	SYSTEM SENSOR	BZW-AL	WALL BEZEL, ALERT		
⊠	7	SYSTEM SENSOR	P2WL	2-WIRE, WALL, HORN STROBE, WHITE	7135-1653.0503	4" SQ. DEEP
⊠	7	SYSTEM SENSOR	LENS-B2	WALL BLUE LENS		
⊠	2	SYSTEM SENSOR	PC2RL	2-WIRE, CEILING, HORN STROBE, RED	7135-1653.0503	4" SQ. DEEP
⊠	2	SYSTEM SENSOR	BZWC-AL	CEILING BEZEL, ALERT		
⊠	2	SYSTEM SENSOR	PC2WL	2-WIRE, CEILING, HORN STROBE, WHITE	7135-1653.0503	4" SQ. DEEP
⊠	2	SYSTEM SENSOR	LENS-BC2	CEILING BLUE LENS		
⊠	4	SYSTEM SENSOR	SRL	STROBE, WALL, RED	7125-1653.0504	4" SQ. DEEP
-	2	POWER SONIC	PS-12550	12V - 55AH SEALED LEAD ACID BATTERY	-	N/A
-	8	POWER SONIC	PS-12380	12V - 38AH SEALED LEAD ACID BATTERY	-	N/A
-	2	POWER SONIC	PS-1270	12V - 7AH SEALED LEAD ACID BATTERY	-	N/A

CABLE AND WIRE LEGEND					
LABEL	PART NO	AWG	RESISTANCE (Ω/KFT)	DESCRIPTION	TOTAL LENGTH
L	18/2 FPLP/R (SLC)	18	7.77	2 COND. SOLID COPPER FPLP/R ADDRESSABLE UNSHIELDED	5113'
N	14/2 FPLP/R (NAC)	14	3.07	2 COND. SOLID COPPER FPLP/R ANALOG UNSHIELDED	2614'
P	14/2 FPLP/R (AUX)	14	3.07	2 COND. SOLID COPPER FPLP/R ADDRESSABLE UNSHIELDED	5286'
Z	18/2 FPLP/R (IDC)	18	7.77	2 COND. SOLID COPPER FPLP/R ANALOG UNSHIELDED	75'

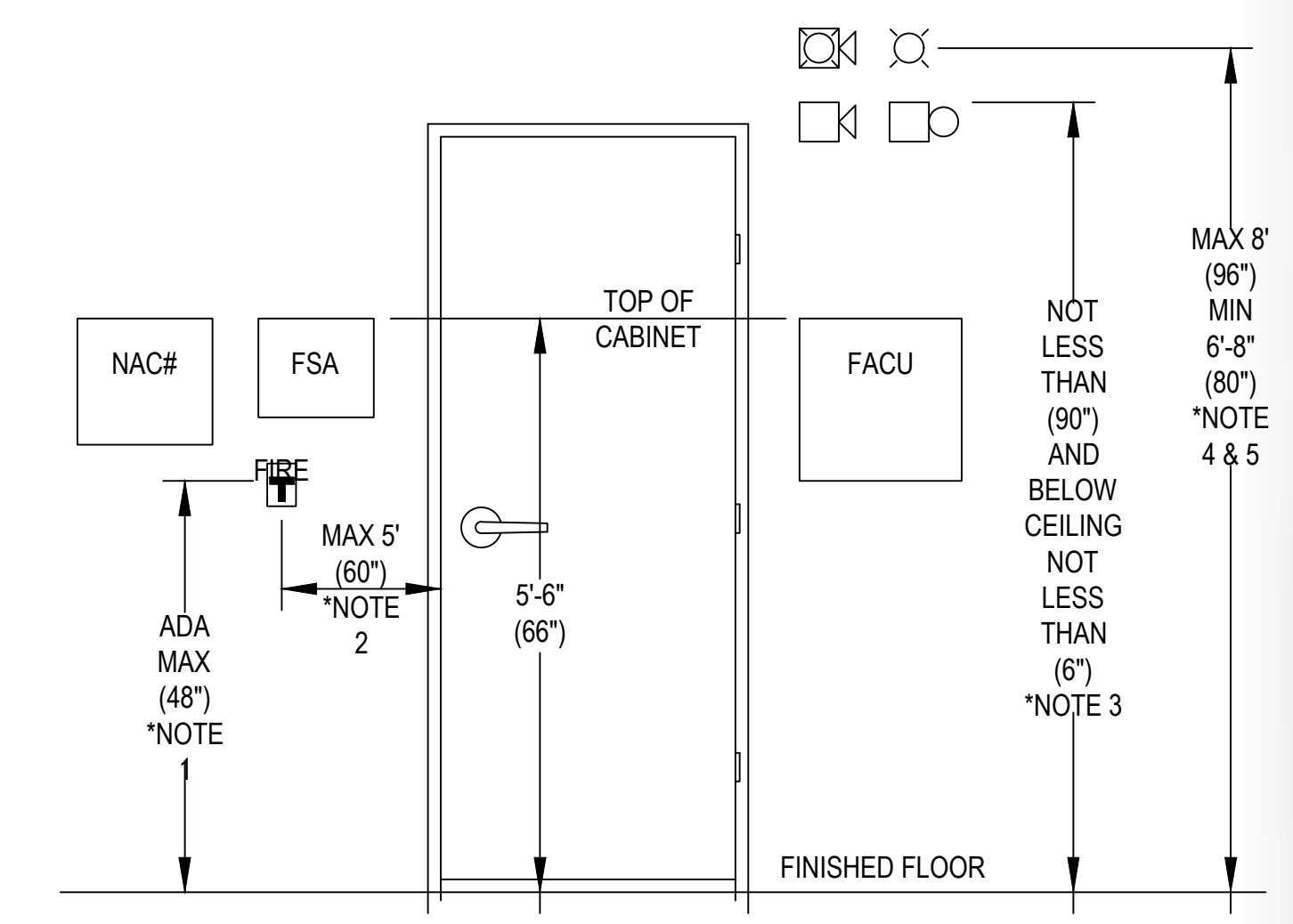
SHEET INDEX	
SHEET No.	SHEET DESCRIPTION
FA-01	FIRE ALARM TITLE PAGE, MATRIX AND CALCULATIONS
FA-02	FIRE ALARM FLOOR PLAN LEVEL0
FA-03	FIRE ALARM FLOOR PLAN LEVEL1
FA-04	FIRE ALARM FLOOR PLAN LEVEL2, 3 & 4
FA-05	FIRE ALARM BATTERY CALCULATIONS
FA-06	FIRE ALARM VOLTAGE DROP CALCULATIONS
FA-07	FIRE ALARM RISER DIAGRAM
FA-08	FIRE ALARM INSTALLATION DETAILS
FA-09	FIRE ALARM INSTALLATION DETAILS

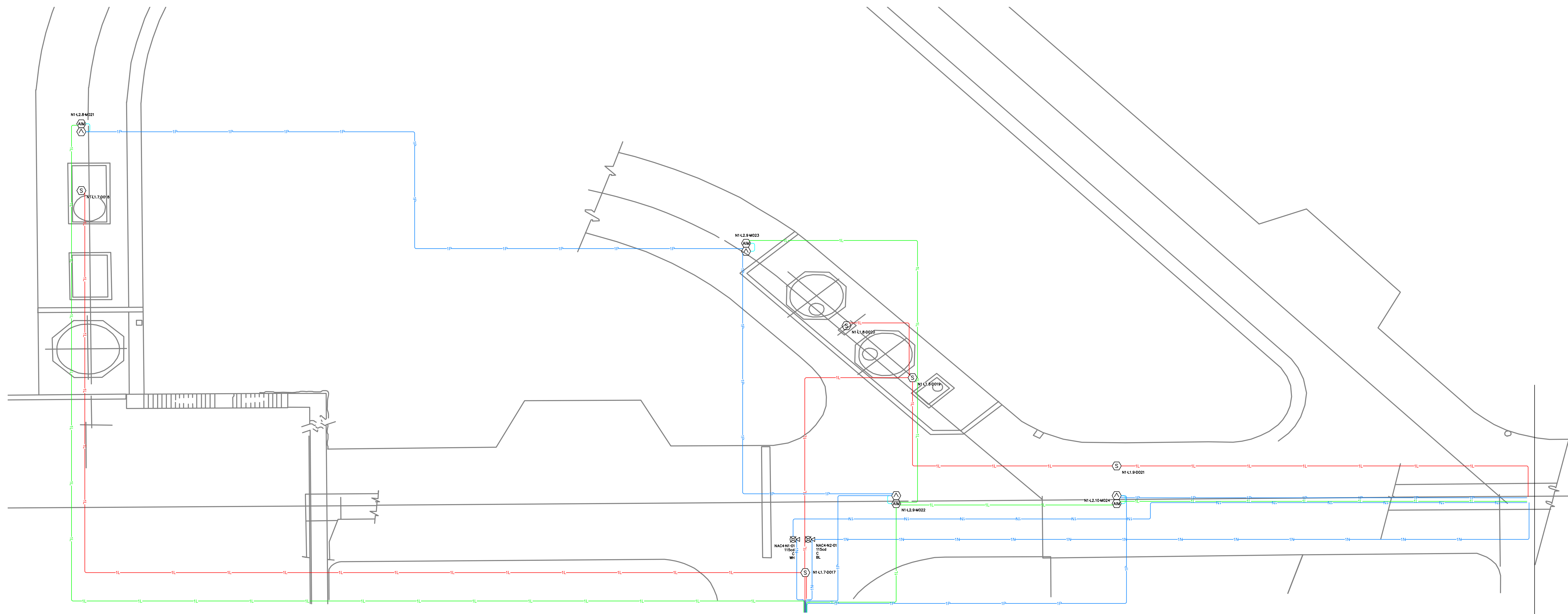
TYPICAL MOUNTING HEIGHTS

- NFPA 72 2016 17.14.5 THE OPERABLE PART OF EACH MANUAL FIRE ALARM BOX SHALL BE NOT LESS THAN 42in AND NOT MORE THAN 48in ABOVE FLOOR LEVEL.
- NFPA 72 2016 17.14.8.4 MANUAL FIRE ALARM BOXES SHALL BE LOCATED WITHIN 60in OF THE EXIT DOORWAY OPENING AT EACH EXIT ON EACH FLOOR.
- NFPA 72 2016 18.4.8.1 IF CEILING HEIGHTS ALLOW, AND UNLESS OTHERWISE PERMITTED BY 18.4.8.2 THROUGH 18.4.8.5, WALL-MOUNTED APPLIANCES SHALL HAVE THEIR TOPS ABOVE THE FINISHED FLOORS AT HEIGHTS OF NOT LESS THAN 90in AND BELOW THE FINISHED CEILING AT DISTANCES OF NOT LESS THAN 6in.
- NFPA 72 2016 18.4.8.3 IF COMBINATION AUDIBLE/ VISIBLE APPLIANCES ARE INSTALLED, THE LOCATION OF THE INSTALLED APPLIANCE SHALL BE DETERMINED BY THE REQUIREMENTS OF 18.5.4. (SEE NOTE 5).
- NFPA 72 2016 18.5.5.1 WALL-MOUNTED APPLIANCES SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80in. AND NOT GREATER THAN 96in ABOVE THE FINISHED FLOOR OR AT THE MOUNTING HEIGHT SPECIFIED USING THE PERFORMANCE BASED ALTERNATIVE OF 18.5.5.6.

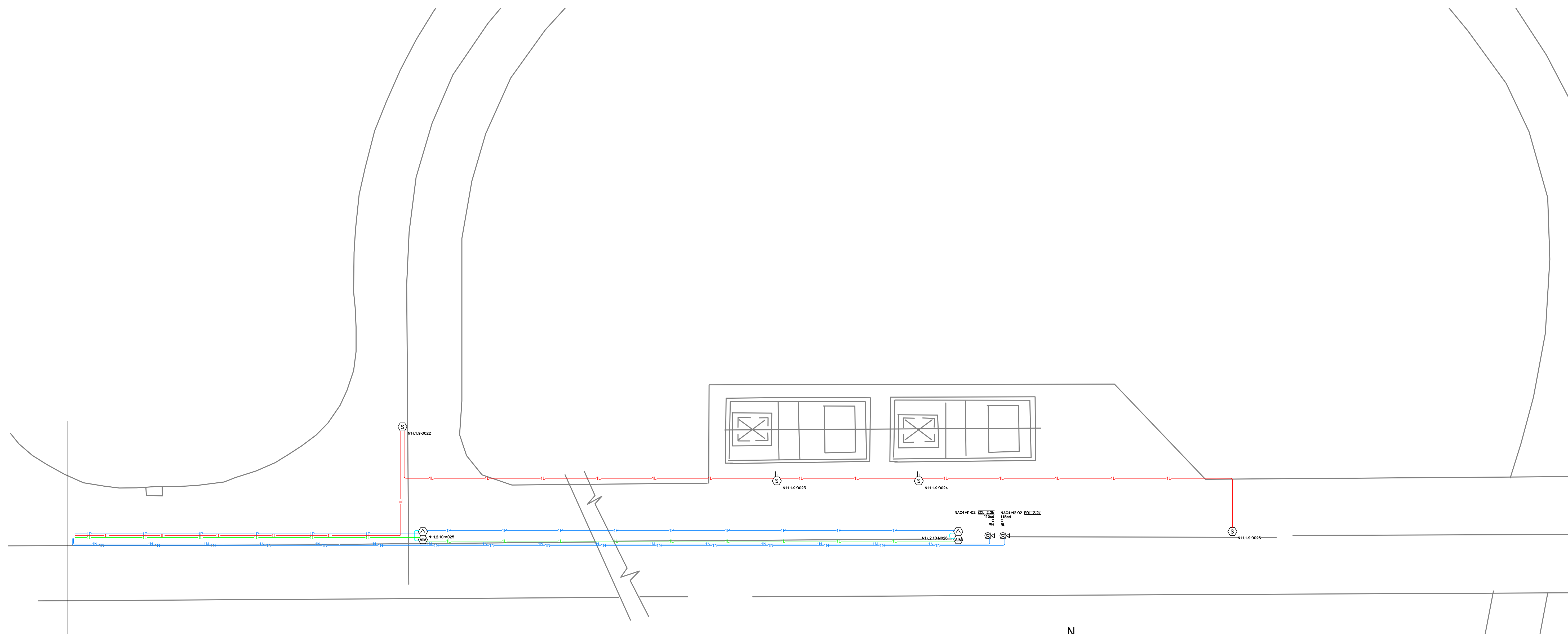
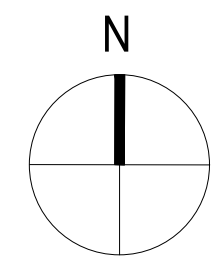
OPERATION MATRIX

ITEM NO.	SYSTEM INPUTS															SYSTEM OUTPUTS															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	ACTIVATE COMMON ALARM SIGNAL INDICATOR (RED LED)	ACTIVATE AUDIBLE ALARM SIGNAL (PIEZO BUZZER)	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR (YELLOW LED)	ACTIVATE AUDIBLE SUPERVISORY SIGNAL (PIEZO BUZZER)	ACTIVATE COMMON TROUBLE SIGNAL INDICATOR (YELLOW LED)	ACTIVATE AUDIBLE TROUBLE SIGNAL (PIEZO BUZZER)	ACTIVATE ALERT SIGNAL THROUGHOUT THE BUILDING (CLEAN STROBES)	ACTIVATE ALERT SIGNAL THROUGHOUT THE BUILDING (BLUE STROBES)	ACTIVATE FIRE ALARM INPUT TO BMS	ACTIVATE SUPERVISORY INPUT TO BMS	ACTIVATE TROUBLE INPUT TO BMS	ACTIVATE LOW O2 INPUT TO BMS	ACTIVATE HYDROGEN INPUT TO BMS	ACTIVATE CLEAN AGENT ALARM INPUT TO BMS	ACTIVATE CO2 ALARM INPUT TO BMS	
01																●	●														
02																●	●														
03																●	●														
04																●	●														
05																●	●														
06																															
07																															
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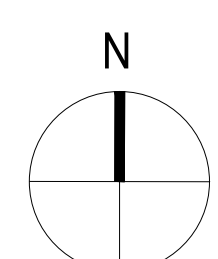




1 LEVEL 0 FIRE ALARM FLOOR PLAN - BOTTOM SECTION
3/32" = 1'-0"



2 LEVEL 0 FIRE ALARM FLOOR PLAN - UPPER SECTION
3/32" = 1'-0"

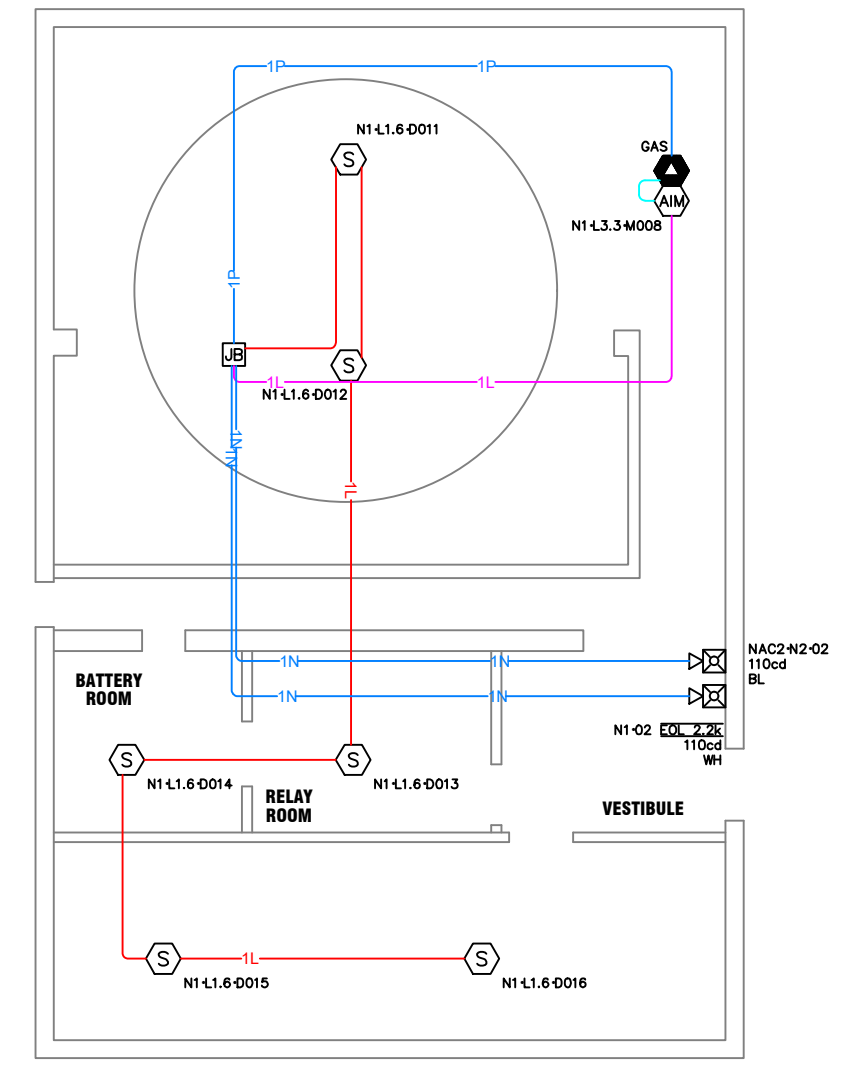
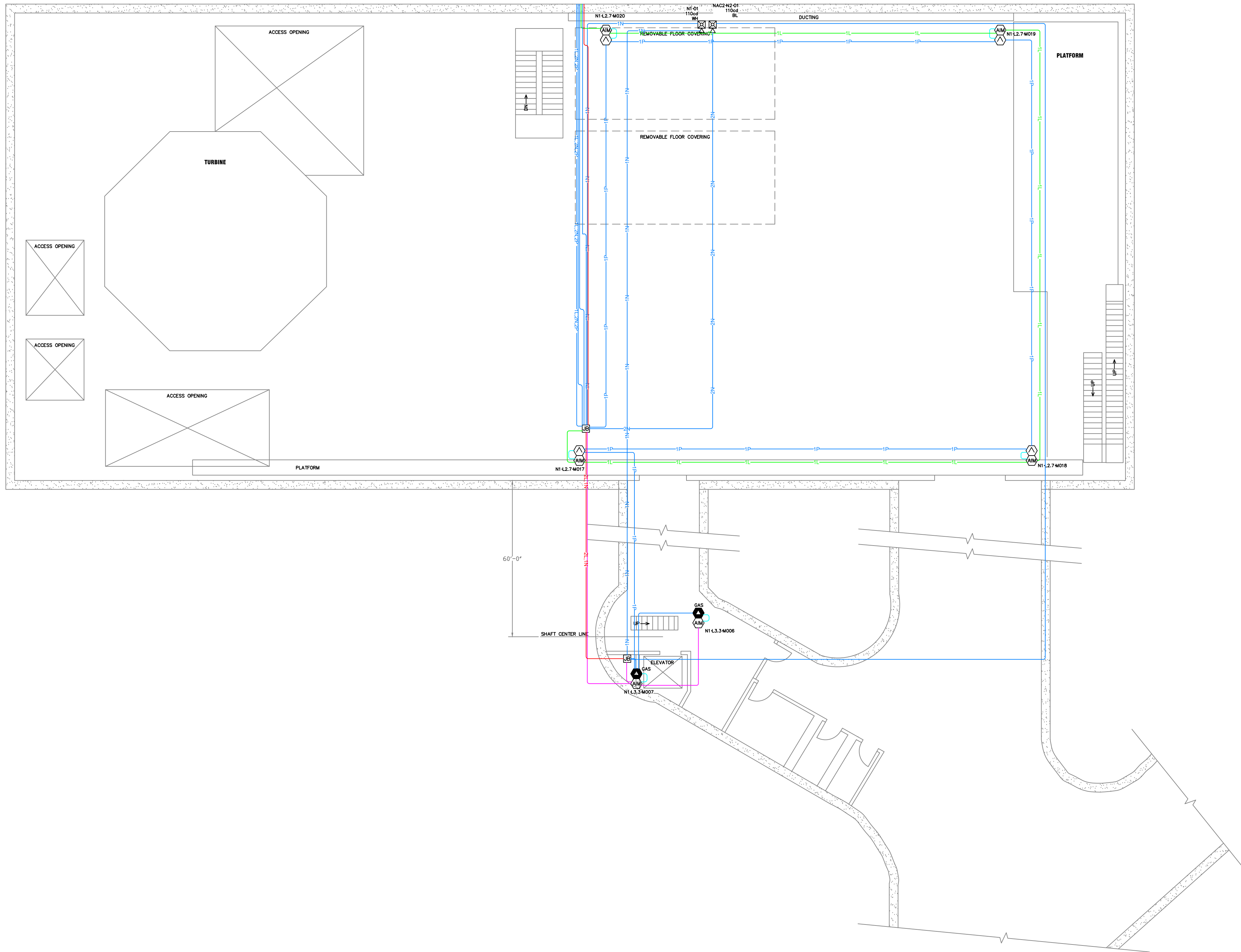


DEVICE LEGEND	
SYMBOL	DESCRIPTION
	FACP, ADDRESSABLE, CPU2-3030D, 1X LCM-320, 1X LEM-320, AMPS-24, NCM-W
	6.0 A OR 10.0 A ADDRESSABLE CHARGING POWER SUPPLY
	ADDRESSABLE MONITOR MODULE W/ FLASHSCAN, SUPERVISES CLASS A OR CLASS B OF DRY CONTACT INPUT
	ADDRESSABLE MINI MONITOR MODULE
	ANALOG INPUT MODULE
	ADDRESSABLE CONTROL MODULE W/ FLASHSCAN, 1 CLASS A OR 1 CLASS B
	RELEASING CONTROL MODULE
	ADDRESSABLE RELAY MODULE W/ FLASHSCAN, 2 FORM-C DRY CONTACTS
	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
	FLAME DETECTOR, UV, 24 VDC
	ADDRESSABLE LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR, FLASHSCAN ONLY
	GAS DETECTOR
	2-WIRE, WALL, HORN STROBE
	2-WIRE, CEILING, HORN STROBE, RED
	STROBE, RED

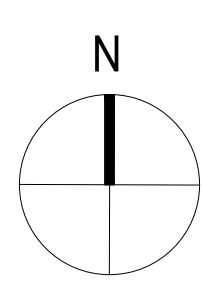
CABLE AND WIRE LEGEND	
LABEL	DESCRIPTION
	LOOP 1 - FIRE ALARM DEVICES
	LOOP 2 - FLAME DETECTORS
	LOOP 3 - GAS DETECTORS
	LOOP 4 - FIRE SUPPRESSION SYSTEM
	NAC
	AUXILIARY
	IDC

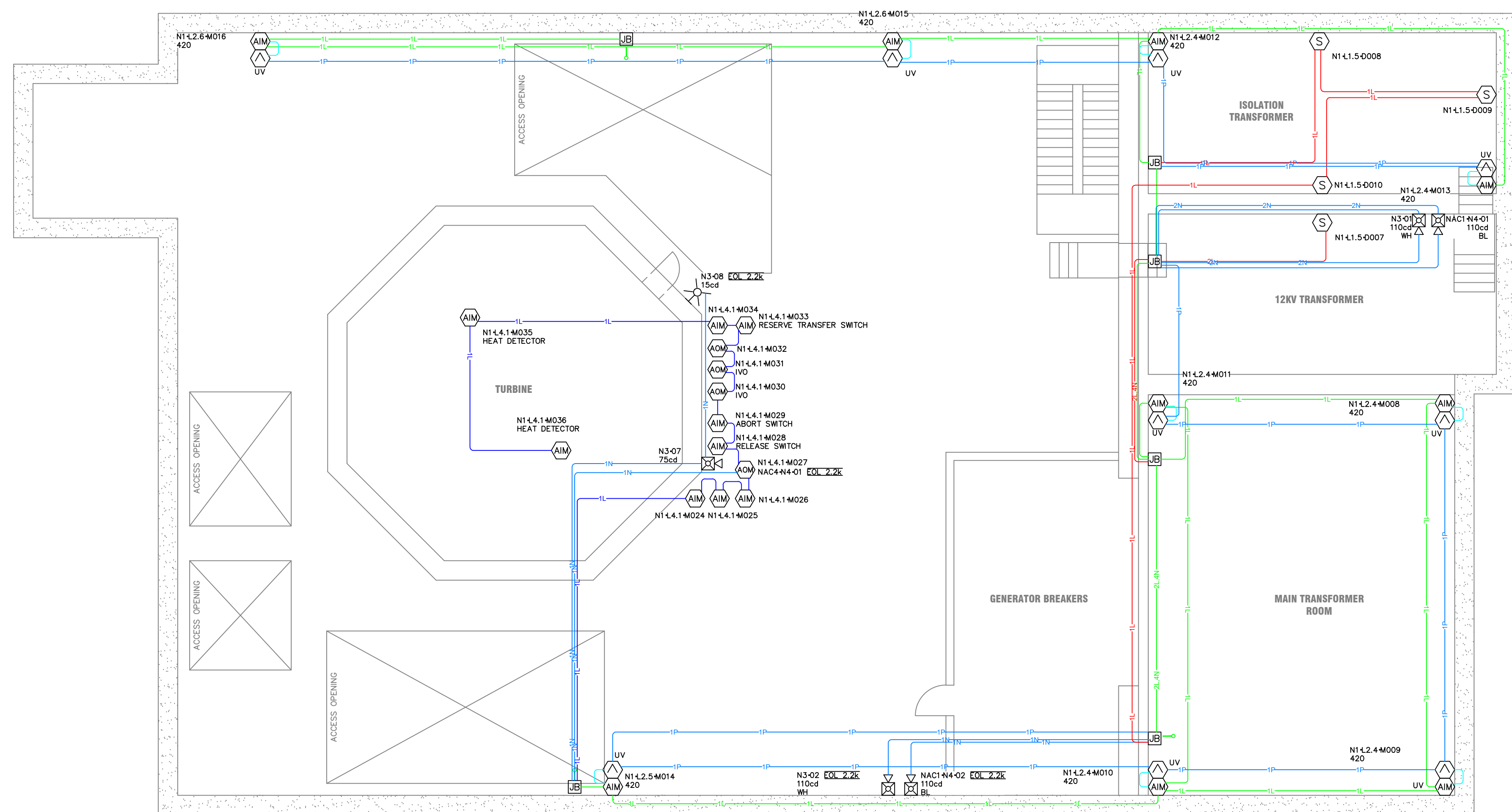
DEVICE LEGEND	
SYMBOL	DESCRIPTION
	FACP, ADDRESSABLE, CPU2-3030D, 1X LCM-320, 1X LEM-320, AMPS-24, NCM-W
	6.0 A OR 10.0 A ADDRESSABLE CHARGING POWER SUPPLY
	ADDRESSABLE MONITOR MODULE W/ FLASHSCAN, SUPERVISES CLASS A OR CLASS B OF DRY CONTACT INPUT
	ADDRESSABLE MINI MONITOR MODULE
	ANALOG INPUT MODULE
	ADDRESSABLE CONTROL MODULE W/ FLASHSCAN, 1 CLASS A OR 1 CLASS B
	RELEASING CONTROL MODULE
	ADDRESSABLE RELAY MODULE W/ FLASHSCAN, 2 FORM-C DRY CONTACTS
	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
	FLAME DETECTOR, UV, 24 VDC
	ADDRESSABLE, LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR, FLASHSCAN ONLY
	GAS DETECTOR
	2-WIRE, WALL, HORN STROBE
	2-WIRE, CEILING, HORN STROBE, RED
	STROBE, RED

CABLE AND WIRE LEGEND	
LABEL	DESCRIPTION
	LOOP 1 - FIRE ALARM DEVICES
	LOOP 2 - FLAME DETECTORS
	LOOP 3 - GAS DETECTORS
	LOOP 4 - FIRE SUPPRESSION SYSTEM
	NAC
	AUXILIARY
	IDC

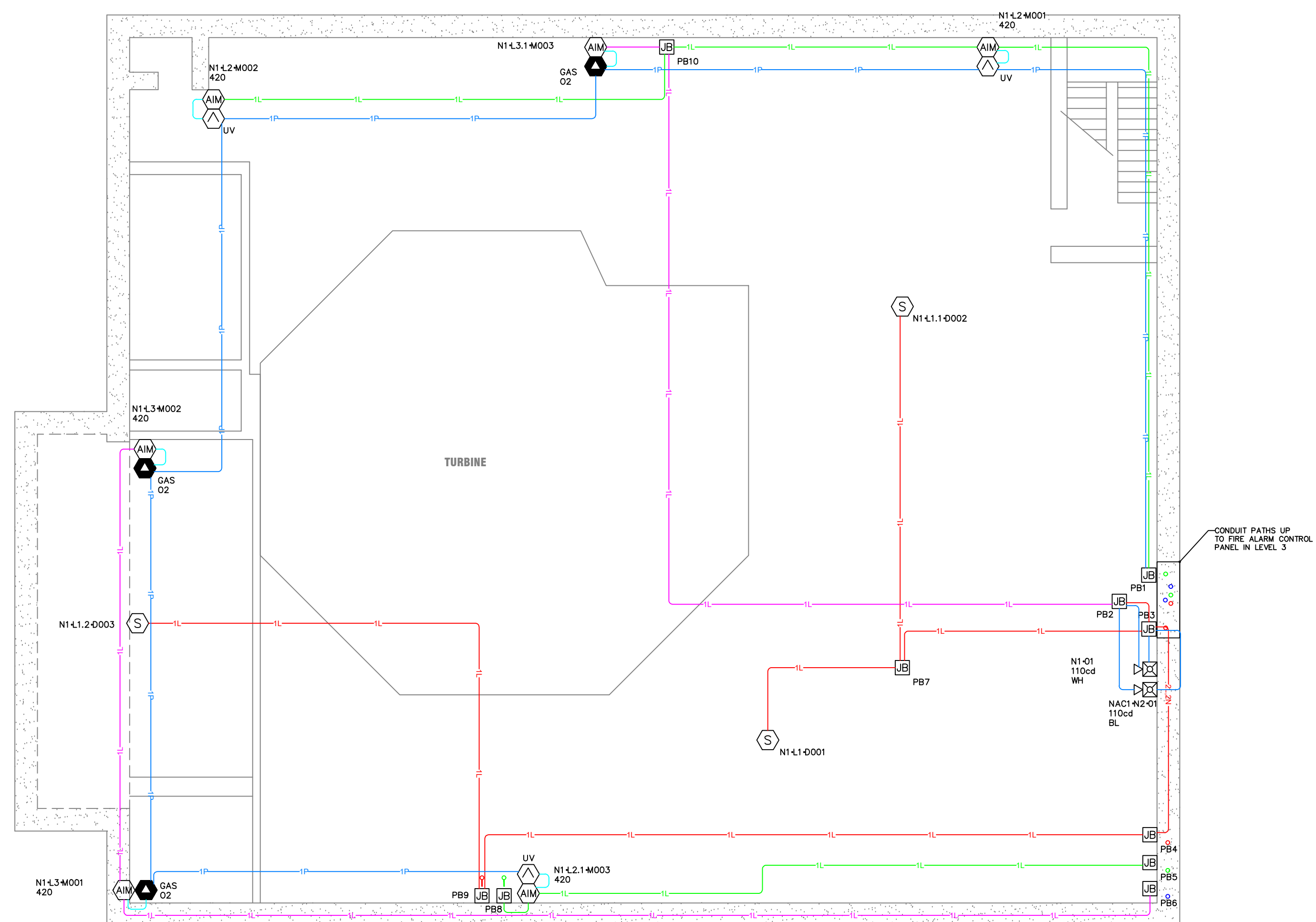
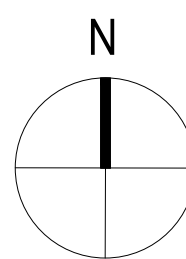


1 LEVEL 1 FIRE ALARM FLOOR PLAN
3/32" = 1'-0"

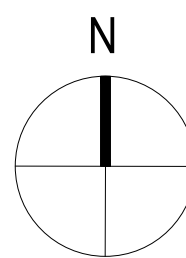




1 LEVEL 2 FIRE ALARM FLOOR PLAN
1/8" = 1'-0"

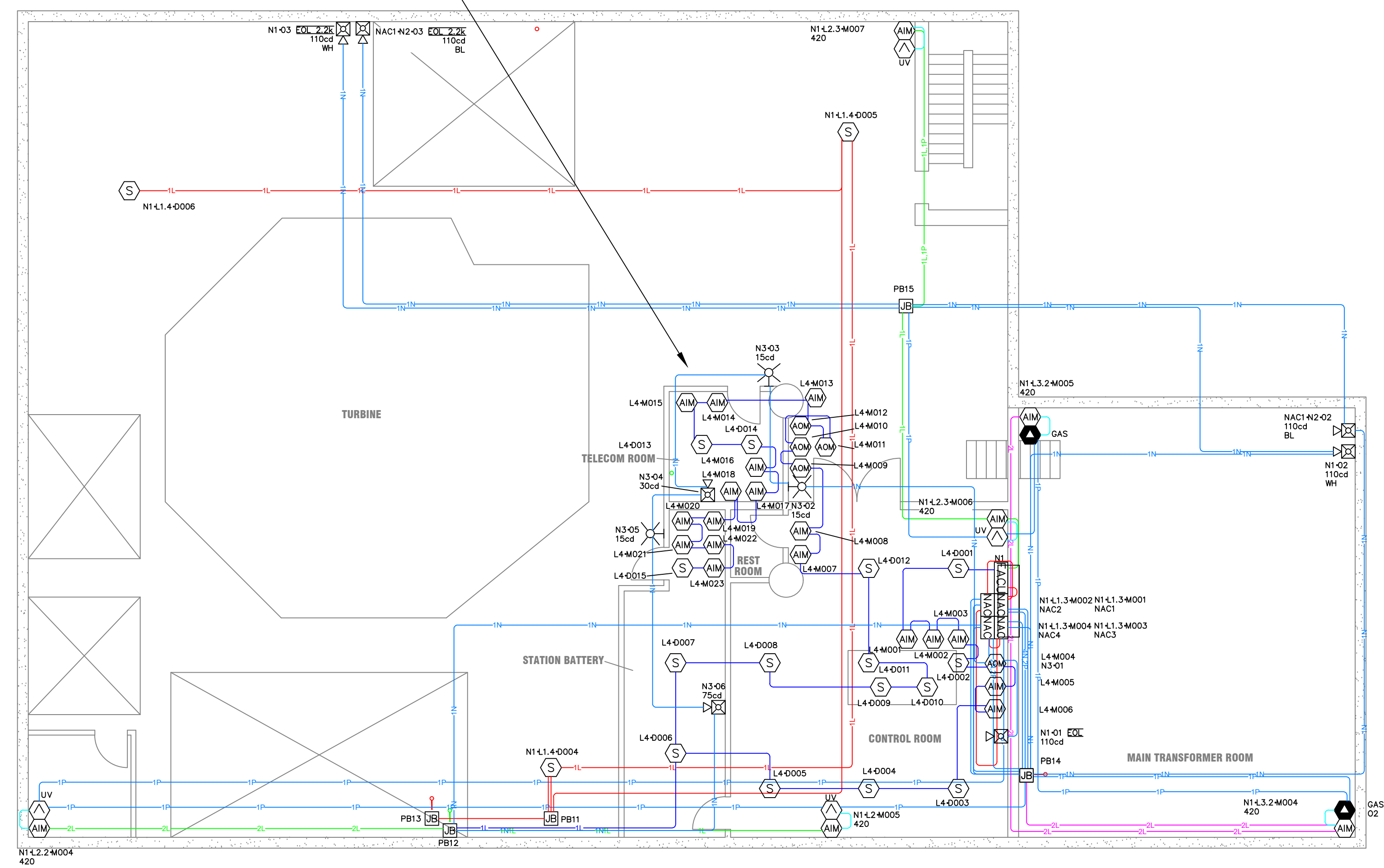


3 LEVEL 4 FIRE ALARM FLOOR PLAN
1/8" = 1'-0"

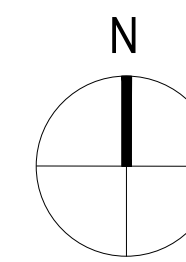


DEVICE'S FUNCTION - CONTROL ROOM

Device Label	Function
L1-M005	BY-PASS SWITCH
L1-D009	LOW CEILING DETECTOR
L1-D010	LOW CEILING DETECTOR
L1-M007	RELEASE SWITCH
L1-M008	ABORT SWITCH
L1-M010	IVO
L1-M011	IVO
L1-M013	RESERVE TRANSFER SWITCH
L1-M014	ABORT SWITCH
L1-M015	RELEASE SWITCH
L1-M020	ABORT SWITCH
L1-M021	RELEASE SWITCH



2 LEVEL 3 FIRE ALARM FLOOR PLAN
1/8" = 1'-0"



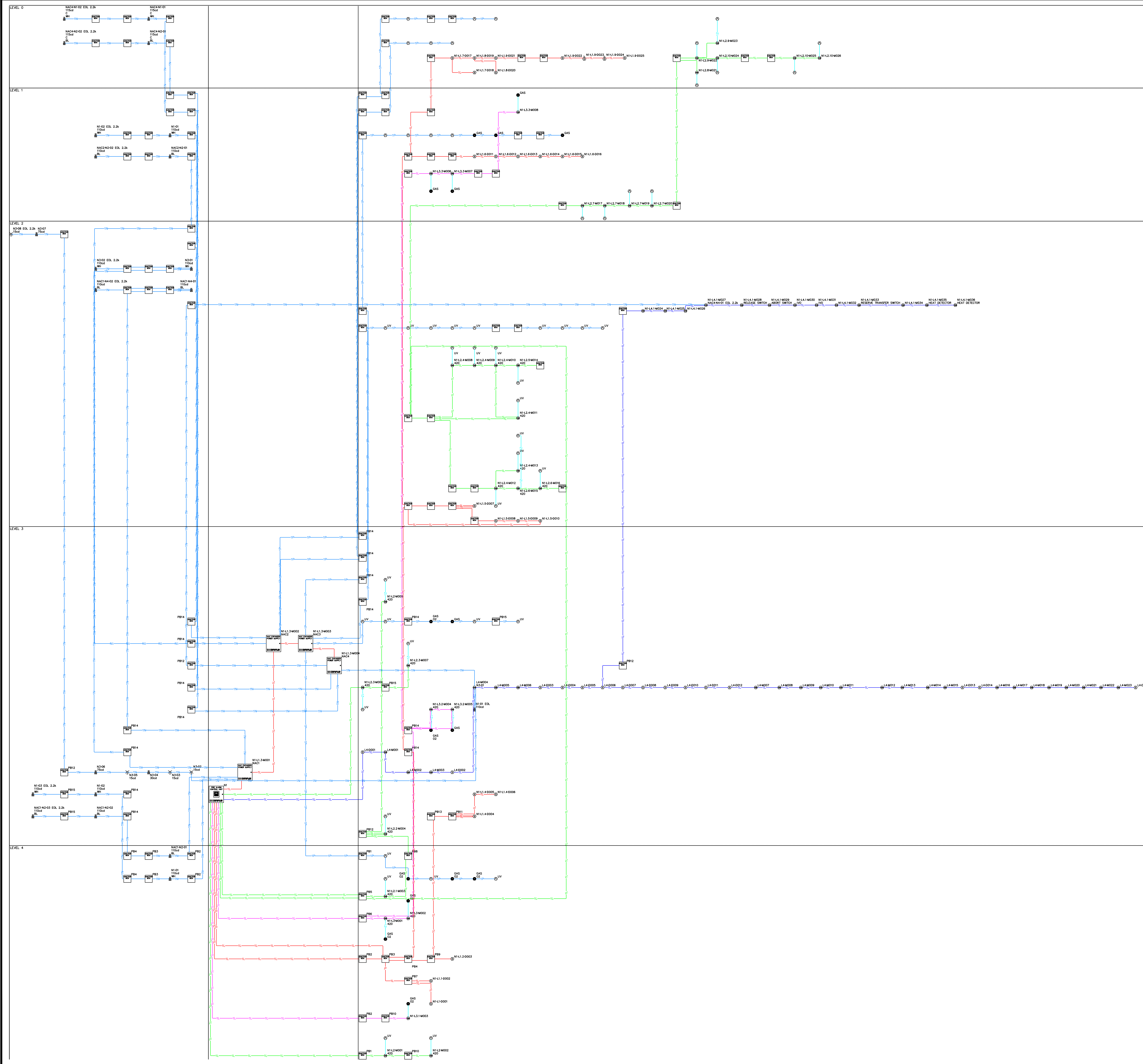
DEVICE LEGEND	
SYMBOL	DESCRIPTION
FACP	FACP, ADDRESSABLE, CPU2-3030D, 1X LCM-320, 1X LEM-320, AMPS-24, NCM-W
NAC	6.0 A OR 10.0 A ADDRESSABLE CHARGING POWER SUPPLY
AM	ADDRESSABLE MONITOR MODULE W/ FLASHSCAN, SUPERVISES CLASS A OR CLASS B OF DRY CONTACT INPUT
AMM	ADDRESSABLE MINI MONITOR MODULE
AMV	ANALOG INPUT MODULE
ACM	ADDRESSABLE CONTROL MODULE W/ FLASHSCAN, 1 CLASS A OR 1 CLASS B
ADM	RELEASING CONTROL MODULE
ARM	ADDRESSABLE RELAY MODULE W/ FLASHSCAN, 2 FORM-C DRY CONTACTS
IS	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
UV	FLAME DETECTOR, UV, 24 VDC
SM	ADDRESSABLE LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR, FLASHSCAN ONLY.
GAS	GAS DETECTOR
W	2-WIRE, WALL, HORN STROBE
C	2-WIRE, CEILING, HORN STROBE, RED
R	STROBE, RED

CABLE AND WIRE LEGEND	
LABEL	DESCRIPTION
L	LOOP 1 - FIRE ALARM DEVICES
L	LOOP 2 - FLAME DETECTORS
L	LOOP 3 - GAS DETECTORS
L	LOOP 4 - FIRE SUPPRESSION SYSTEM
N	NAC
P	AUXILIARY
Z	IDC

PANEL N1 (NFS2-3030D (FACP)) BATTERY CALCULATION								
(SECONDARY POWER SOURCE REQUIREMENTS)								
PANEL POWER SUPPLY MAX CURRENT = 5A				TOTAL USED CAPACITY (IN ALARM) = 1.4923A (29.85 %)				
		STANDBY CURRENT (AMPS)		SECONDARY ALARM CURRENT (AMPS)				
	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL	
PANEL COMPONENTS	1	ACPS-610	6.0 A or 10.0 A Addressable Charging Power Supply	0.09	0.09	0.09	0.09	
	1	AMPS-24	Addressable Power Supply/Battery Charger	0.13	0.13	0	0	
	1	BACNET-GW-3	BACnet Gateway	0.125	0.125	0.125	0.125	
	1	CPU2-3030D	NFS2-3030 Fire Alarm Control Panel Main Board (Central Processing Unit), 120V Power, Includes Chassis, Display Option	0.34	0.34	0.34	0.34	
	1	LCM-320	Loop Control Module	0.13	0.13	0.13	0.13	
	3	LEM-320	Loop Expander Module, Provides Even Numbered SLC Loops	0.1	0.3	0.1	0.3	
CIRCUIT	SYMBOL	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
N1-L1	ACPS	4	ACPS-610 Assembly	ACPS-610 in Stand-Alone Cabinet	0	0	0	0
	DI	2	DNR w/FSP-951R	Intelligent Non-Relay Photoelectric Duct Detector/FSP-951R	0.0002	0.0004	0.0045	0.009
	S	23	FSP-951 w/B300-6	Addressable low-profile photoelectric smoke detector, FlashScan only.	0.0002	0.0046	0.0045	0.1035
N1-L2	AM	26	FMM-4-20	Analog Input Module	0.0007	0.0182	0.0007	0.0182
N1-L3	AM	8	FMM-4-20	Analog Input Module	0.0007	0.0056	0.0007	0.0056
N1-L4	AM	2	FCM-1	Addressable Control Module W/ FlashScan, 1 Class A or 1 Class B	0.000485	0.00097	0.0065	0.013
	AM	6	FCM-1-REL	Releasing Control Module	0.000485	0.00291	0.0065	0.039
	AM	15	FMM-1	Addressable Monitor Module W/ FlashScan, Supervises Class A or Class B of Dry Contact Input	0.000375	0.005625	0.005	0.075
	AM	12	FMM-101	Addressable Min Monitor Module	0.000375	0.0045	0.005	0.06
	AM	1	FRM-1	Addressable Relay Module W/ FlashScan, 2 Form-C Dry Contacts	0.000255	0.000255	0.0065	0.0065
	S	15	FSP-951 w/B300-6	Addressable low-profile photoelectric smoke detector, FlashScan only.	0.0002	0.003	0.0045	0.0675
				TOTAL STANDBY (A)	1.27106	TOTAL ALARM (A)	1.4923	
				REQUIRED STANDBY TIME = 24 HOURS				
				REQUIRED ALARM TIME = 5 MINUTES				
SECONDARY STANDBY LOAD (A)				1.27106	24	30.50544		
SECONDARY ALARM LOAD (A)				1.4923	0.08333	0.12436		
STANDBY AND ALARM SUBTOTAL (AMP HOURS)				30.6298				
DERATING FACTOR				1.2				
SECONDARY LOAD REQUIREMENTS (AMP HOURS)				36.75576				
PROVIDE (2) 12V 38AH BATTERIES @ 24VDC								

PANEL NAC1 (ACPS-610 ASSEMBLY) BATTERY CALCULATION									
(SECONDARY POWER SOURCE REQUIREMENTS)									
PANEL POWER SUPPLY MAX CURRENT = 6A				TOTAL USED CAPACITY (IN ALARM) = 1.88A (31.50 %)					
		STANDBY CURRENT (AMPS)		SECONDARY ALARM CURRENT (AMPS)					
	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL		
PANEL COMPONENTS	1	ACPS-610	6.0 A or 10.0 A Addressable Charging Power Supply	0.09	0.09	0.09	0.09		
	CIRCUIT	SYMBOL	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
	NAC1-N1	PRL	1	P2RL	2-Wire, Horn Strobe, Red 115cfd	0	0	0.162	0.162
			2	P2RL	2-Wire, Horn Strobe, Red 115cfd	0	0	0.198	0.396
NAC1-N2	PWL	3	P2WL	2-Wire, Horn Strobe, White 115cfd	0	0	0.162	0.486	
		2	P2RL	2-Wire, Horn Strobe, Red 115cfd	0	0	0.198	0.396	
NAC1-N4	PWL	1	P2WL	2-Wire, Horn Strobe, White 115cfd	0	0	0.162	0.162	
		1	P2WL	2-Wire, Horn Strobe, White 115cfd	0	0	0.198	0.198	
				TOTAL STANDBY (A)	0.09	TOTAL ALARM (A)	1.88		
				REQUIRED STANDBY TIME = 24 HOURS					
				REQUIRED ALARM TIME = 5 MINUTES					
SECONDARY STANDBY LOAD (A)				0.09	24	2.16			
SECONDARY ALARM LOAD (A)				1.89	0.08333	0.1575			
STANDBY AND ALARM SUBTOTAL (AMP HOURS)				2.3175					
DERATING FACTOR				1.2					
SECONDARY LOAD REQUIREMENTS (AMP HOURS)				2.781					
PANEL NAC2 (ACPS-610 ASSEMBLY) BATTERY CALCULATION									
(SECONDARY POWER SOURCE REQUIREMENTS)									
PANEL POWER SUPPLY MAX CURRENT = 6A				TOTAL USED CAPACITY (IN ALARM) = 0.81A (13.50 %)					
		STANDBY CURRENT (AMPS)		SECONDARY ALARM CURRENT (AMPS)					
	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL		
PANEL COMPONENTS	1	ACPS-610	6.0 A or 10.0 A Addressable Charging Power Supply	0.09	0.09	0.09	0.09		
	CIRCUIT	SYMBOL	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
	NAC2-N1	PRL	2	P2RL	2-Wire, Horn Strobe, Red 115cfd	0	0	0.198	0.396
			2	P2WL	2-Wire, Horn Strobe, White 115cfd	0	0	0.162	0.324
NAC2-N3	C	3	30-2021-24	Flame Detector, UV, 24 VDC	0	0	0	0	
		1	30-2021-24	Flame Detector, UV, 24 VDC	0	0	0	0	
NAC2-N4	C	2	30-2054-24	Ember Detector, IR, 24 VDC	0	0	0	0	
						TOTAL STANDBY (A)	0.09	TOTAL ALARM (A)	0.81
				REQUIRED STANDBY TIME = 24 HOURS					
				REQUIRED ALARM TIME = 5 MINUTES					
SECONDARY STANDBY LOAD (A)				0.09	24	2.16			
SECONDARY ALARM LOAD (A)				0.81	0.08333	0.0675			
STANDBY AND ALARM SUBTOTAL (AMP HOURS)				2.2275					
DERATING FACTOR				1.2					
SECONDARY LOAD REQUIREMENTS (AMP HOURS)				2.673					
PROVIDE (2) 12V 7AH BATTERIES @ 24VDC									

PANEL NAC3 (ACPS-610 ASSEMBLY) BATTERY CALCULATION									
(SECONDARY POWER SOURCE REQUIREMENTS)									
PANEL POWER SUPPLY MAX CURRENT = 6A				TOTAL USED CAPACITY (IN ALARM) = 1.762A (29.37 %)					
		STANDBY CURRENT (AMPS)		SECONDARY ALARM CURRENT (AMPS)					
	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL		
PANEL COMPONENTS	1	ACPS-610	6.0 A or 10.0 A Addressable Charging Power Supply	0.09	0.09	0.09	0.09		
	CIRCUIT	SYMBOL	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
	NAC3-N1	GAS	3	30-2021-24	Flame Detector, UV, 24 VDC	0	0	0	0
			3	XCD	Gas Detector	0.209	0.627	0.209	0.627
NAC3-N2	GAS	4	30-2021-24	Flame Detector, UV, 24 VDC	0	0	0	0	
		2	XCD	Gas Detector	0.209	0.418	0.209	0.418	
NAC3-N3	GAS	9	30-2021-24	Flame Detector, UV, 24 VDC	0	0	0	0	
		4	30-2021-24	Flame Detector, UV, 24 VDC	0	0	0	0	
NAC3-N4	GAS	4	30-2021-24	Flame Detector, UV, 24 VDC	0	0	0	0	
		3	XCD	Gas Detector	0.209	0.627	0.209	0.627	
				TOTAL STANDBY (A)	1.762	TOTAL ALARM (A)	1.762		
				REQUIRED STANDBY TIME = 24 HOURS					
				REQUIRED ALARM TIME = 5 MINUTES					
SECONDARY STANDBY LOAD (A)				1.762	24	42.288			
SECONDARY ALARM LOAD (A)				1.762	0.08333	0.14683			
STANDBY AND ALARM SUBTOTAL (AMP HOURS)				42.43563					
DERATING FACTOR				1.2					
SECONDARY LOAD REQUIREMENTS (AMP HOURS)				50.9218					
PANEL NAC4 (ACPS-610 ASSEMBLY) BATTERY CALCULATION									
(SECONDARY POWER SOURCE REQUIREMENTS)									
PANEL POWER SUPPLY MAX CURRENT = 6A				TOTAL USED CAPACITY (IN ALARM) = 1.4914A (24.86 %)					
		STANDBY CURRENT (AMPS)		SECONDARY ALARM CURRENT (AMPS)					
	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL		
PANEL COMPONENTS	1	ACPS-610	6.0 A or 10.0 A Addressable Charging Power Supply	0.09	0.09	0.09	0.09		
	CIRCUIT	SYMBOL	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
	NAC4-N1	C	2	PC2RL	2-Wire, Horn Strobe, Red 115cfd	0	0	0.187	0.374
			2	PC2WL	2-Wire, Horn Strobe, White 115cfd	0	0	0.187	0.374
NAC4-N3	AM	1	FCM-1	Addressable Control Module W/ FlashScan, 1 Class A or 1 Class B	0	0	0.1637	0.1637	
		1	P2RL	2-Wire, Horn Strobe, Red 75cfd	0	0	0.074	0.074	
		2	P2RL	2-Wire, Horn Strobe, Red 75cfd	0	0	0.121	0.242	
		4	SRL	Strobe, Red 15cfd	0	0	0.043	0.172	
NAC4-N4	AM	1	FCM-1	Addressable Control Module W/ FlashScan, 1 Class A or 1 Class B	0	0	0.0017	0.0017	
						TOTAL STANDBY (A)	0.09	TOTAL ALARM (A)	1.4914
				REQUIRED STANDBY TIME = 24 HOURS					
				REQUIRED ALARM TIME = 5 MINUTES					
SECONDARY STANDBY LOAD (A)				0.09	24	2.16			
SECONDARY ALARM LOAD (A)				1.4914	0.08333	0.12428			
STANDBY AND ALARM SUBTOTAL (AMP HOURS)				2.28428					
DERATING FACTOR				1.2					
SECONDARY LOAD REQUIREMENTS (AMP HOURS)				2.74114					
PROVIDE (2) 12V 7AH BATTERIES @ 24VDC									



DEVICE LEGEND	
SYMBOL	DESCRIPTION
	FACP, ADDRESSABLE, CPU2-3030D, 1X LCM-320, 1X LEM-320, AMPS-24, NCM-W
	6.0 A OR 10.0 A ADDRESSABLE CHARGING POWER SUPPLY
	ADDRESSABLE MONITOR MODULE W/ FLASHCAN, SUPERVISES CLASS A OR CLASS B OF DRY CONTACT INPUT
	ADDRESSABLE MINI MONITOR MODULE
	ANALOG INPUT MODULE
	ADDRESSABLE CONTROL MODULE W/ FLASHCAN, 1 CLASS A OR 1 CLASS B
	RELEASING CONTROL MODULE
	ADDRESSABLE RELAY MODULE W/ FLASHCAN, 2 FORM-C DRY CONTACTS
	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
	FLAME DETECTOR, UV, 24 VDC
	ADDRESSABLE, LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR, FLASHSCAN ONLY.
	GAS DETECTOR
	2-WIRE, WALL, HORN STROBE
	2-WIRE, CEILING, HORN STROBE, RED
	STROBE, RED

CABLE AND WIRE LEGEND	
LABEL	DESCRIPTION
	LOOP 1 - FIRE ALARM DEVICES
	LOOP 2 - FLAME DETECTORS
	LOOP 3 - GAS DETECTORS
	LOOP 4 - FIRE SUPPRESSION SYSTEM
	NAC
	AUXILIARY
	IDC

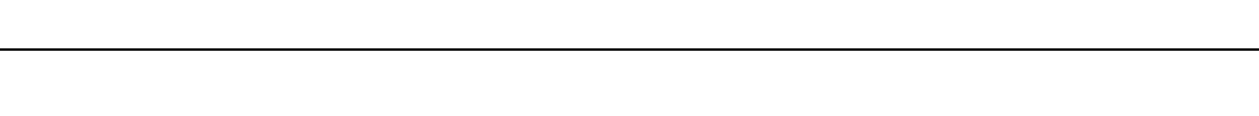
INSTALLATION AND MAINTENANCE INSTRUCTIONS



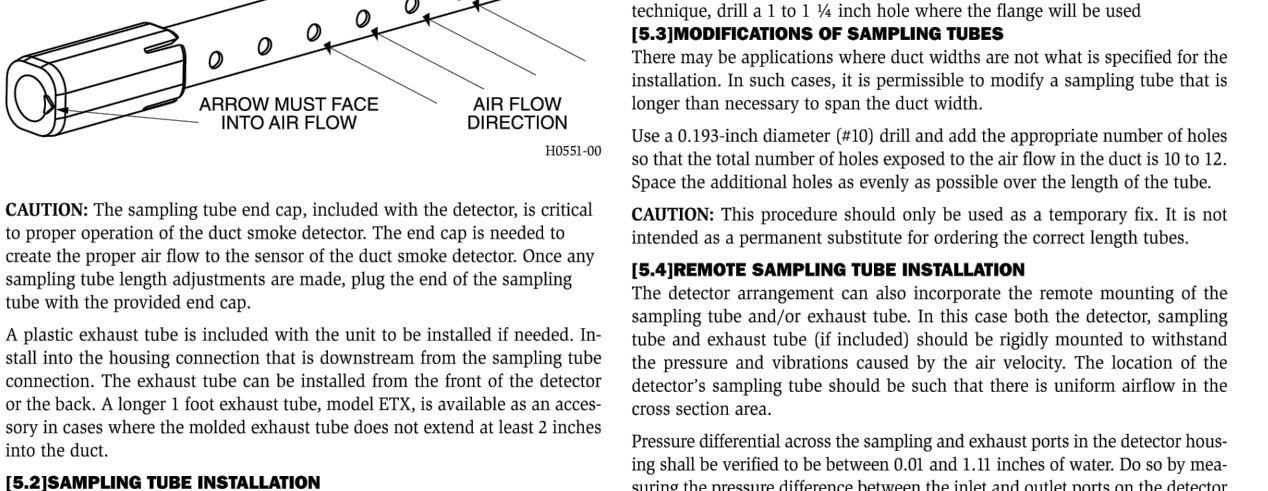
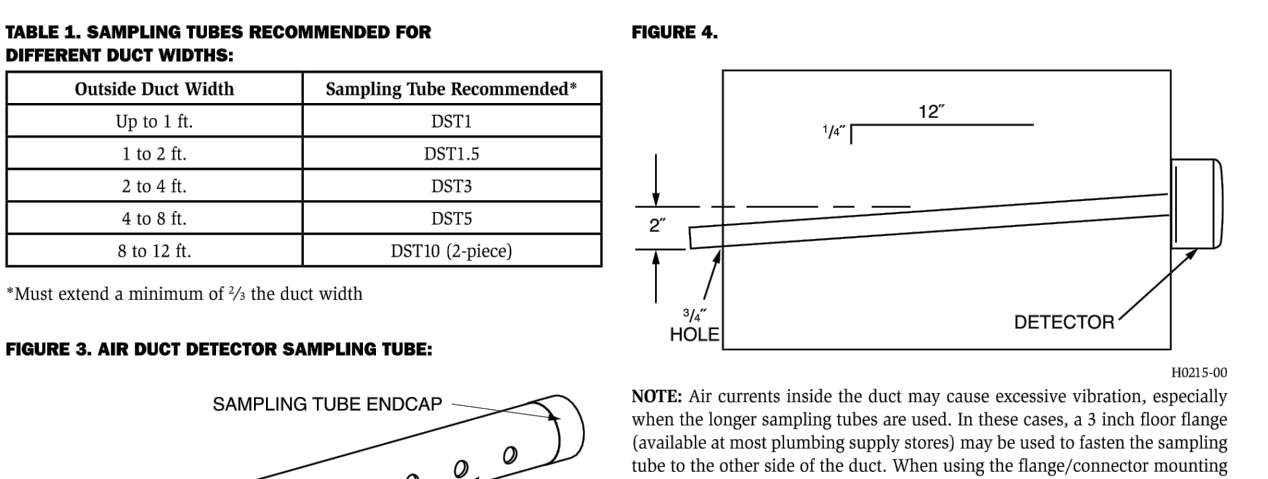
General Description, Specifications, Dimensions, and Weight information for the DNR duct smoke detector.

Table with 2 columns: Feature and Page. Lists installation steps and their corresponding page numbers.

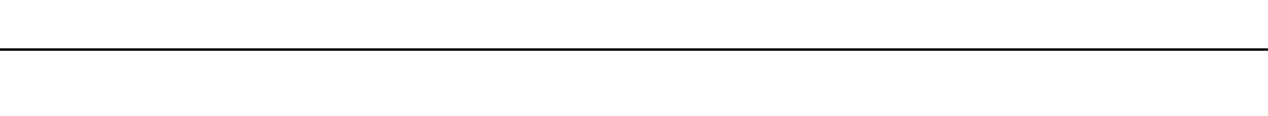
General Description: The DNR duct smoke detector is designed for use in air duct systems to detect the presence of smoke...



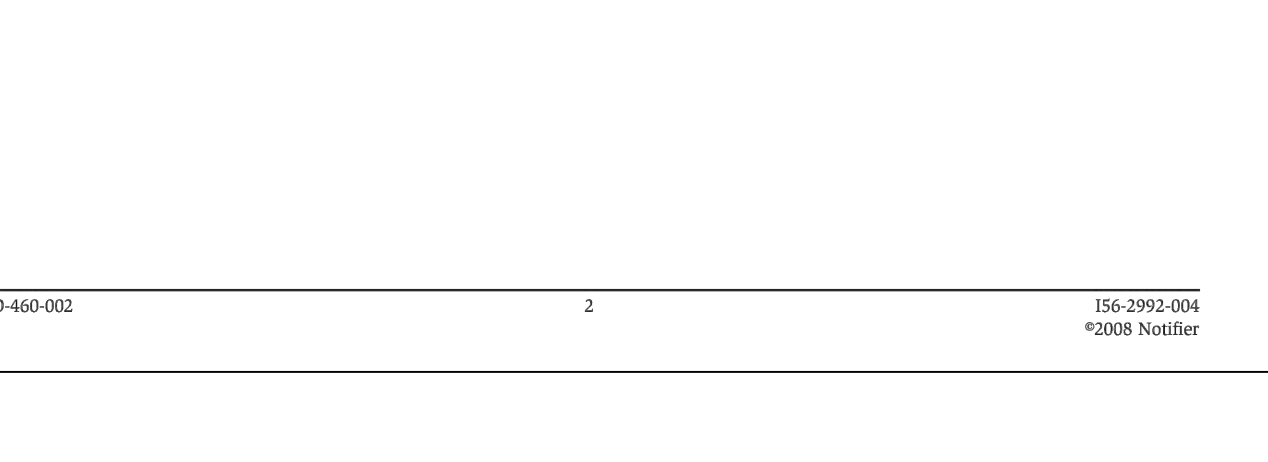
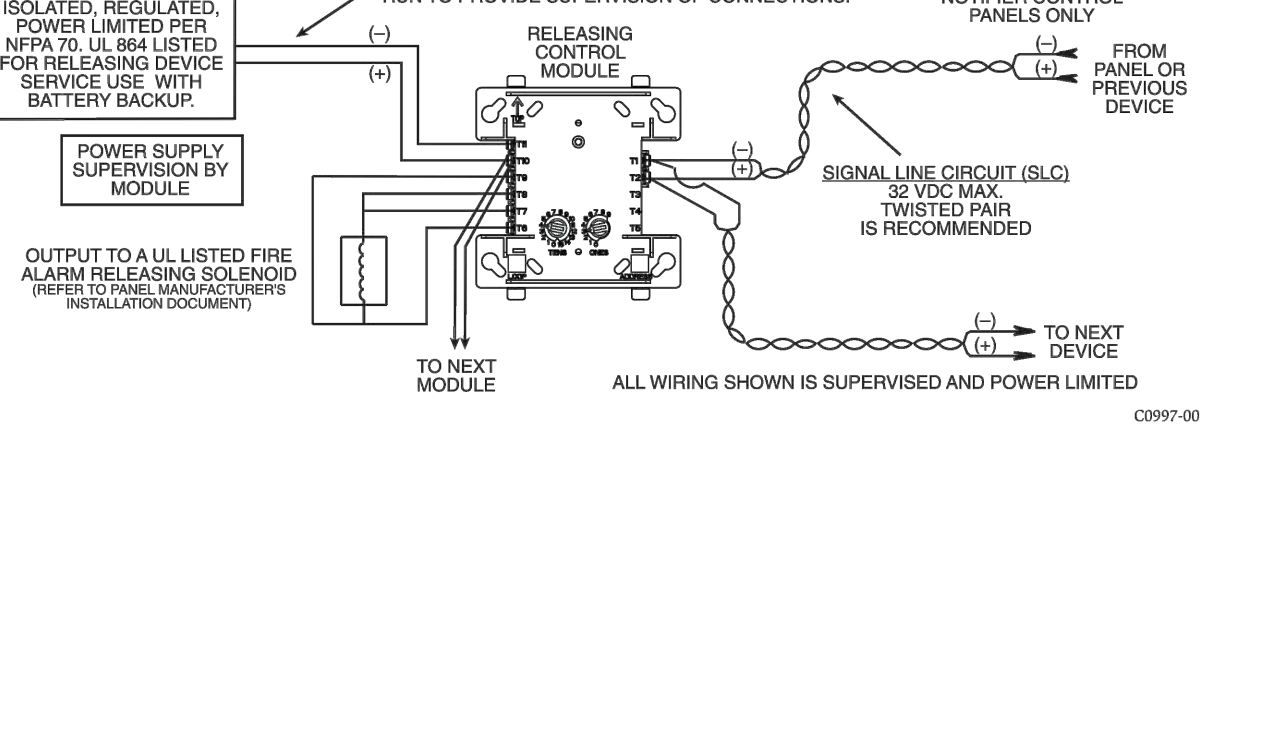
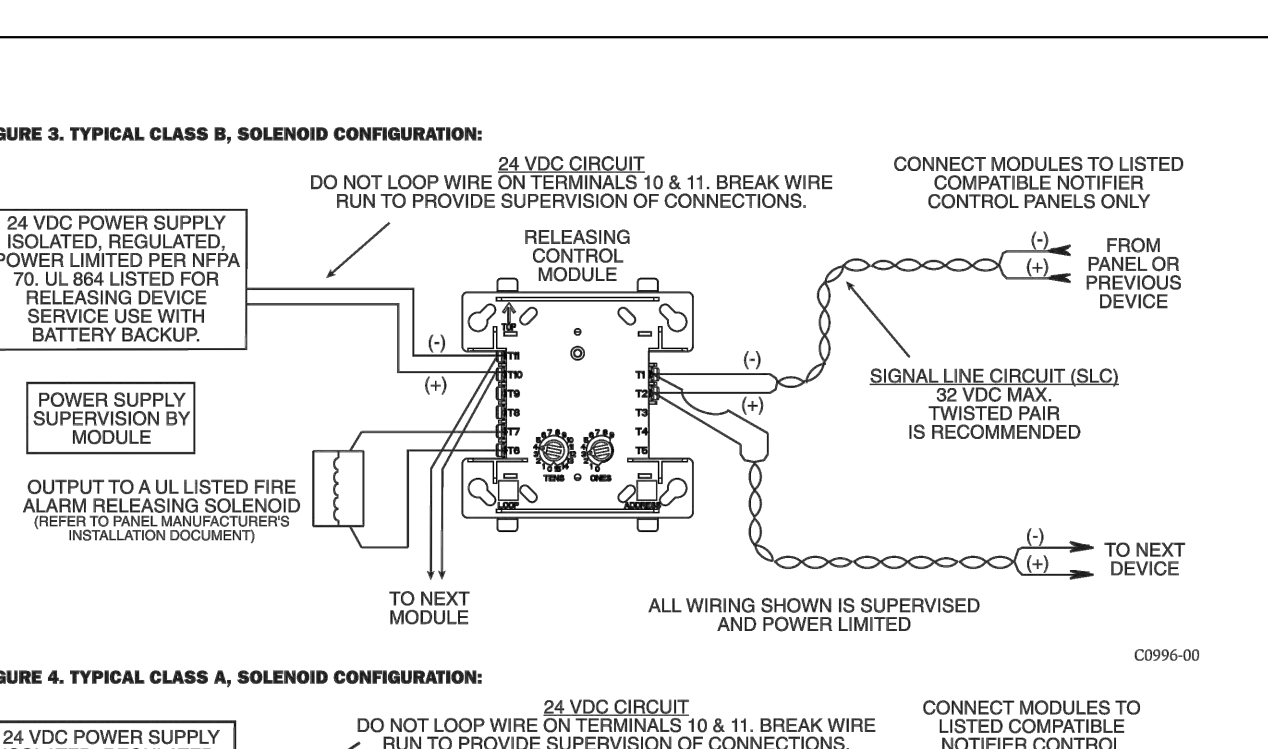
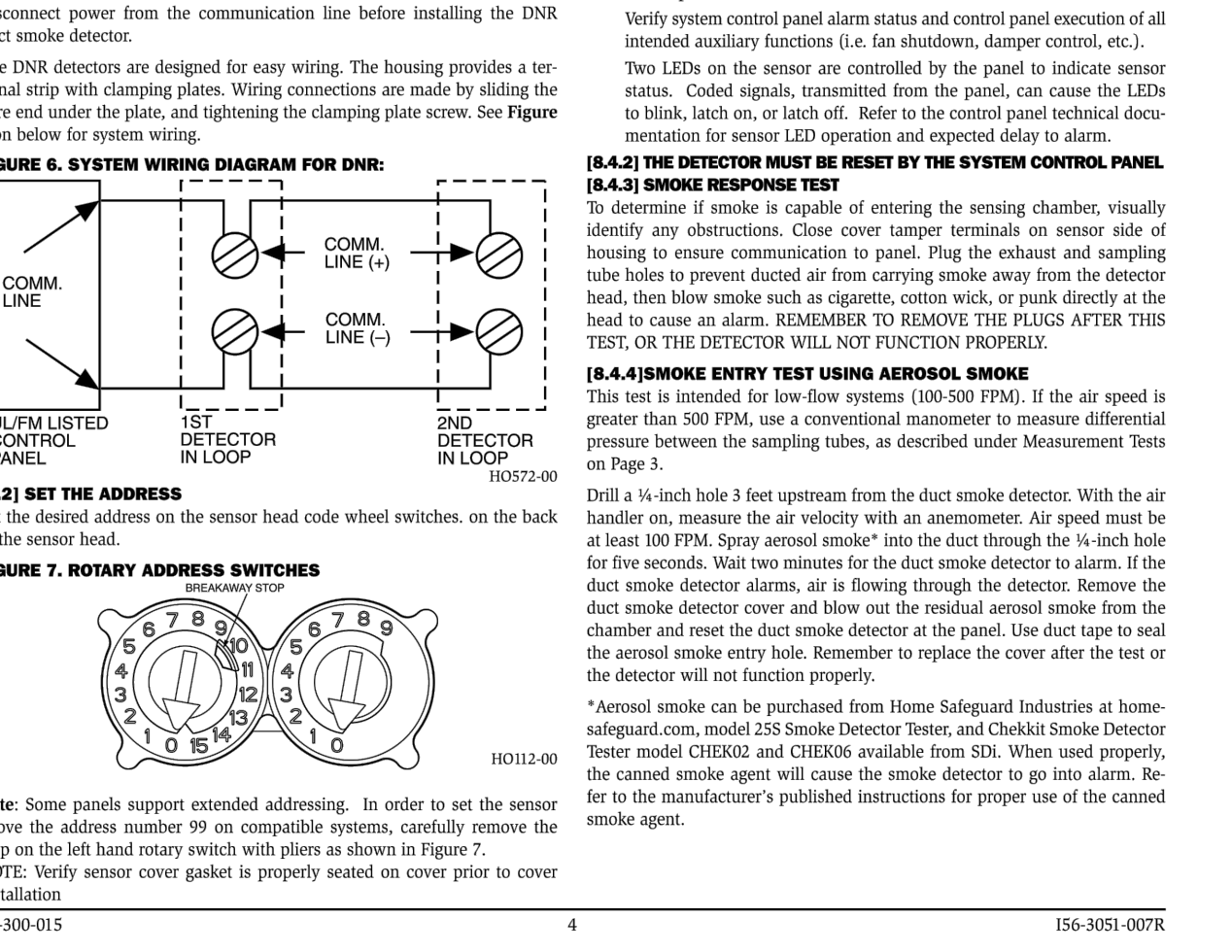
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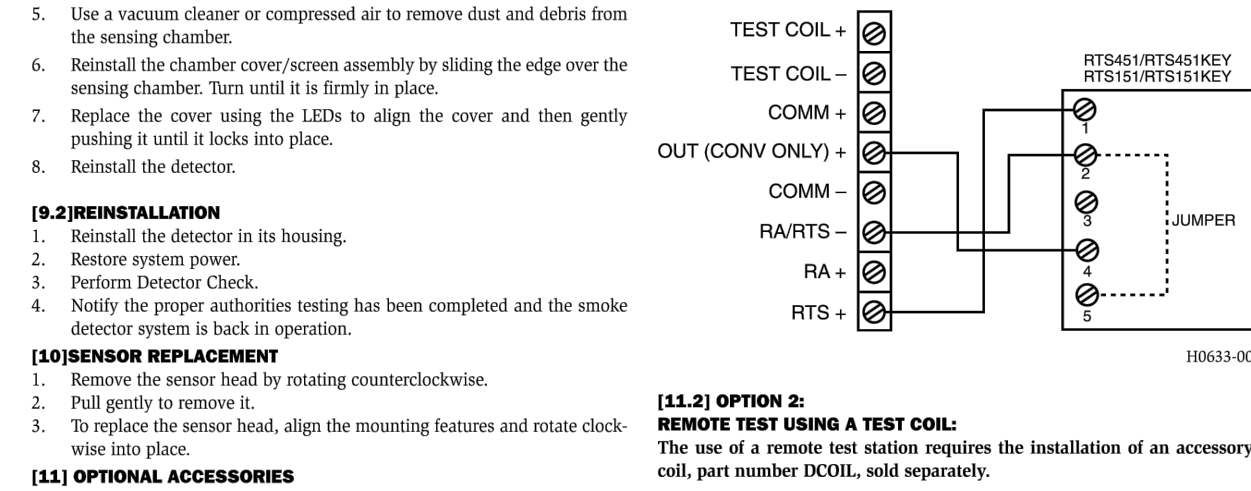
General Description: The detector is designed to sense the presence of smoke in air ducts. It features a sampling tube that extends into the duct...



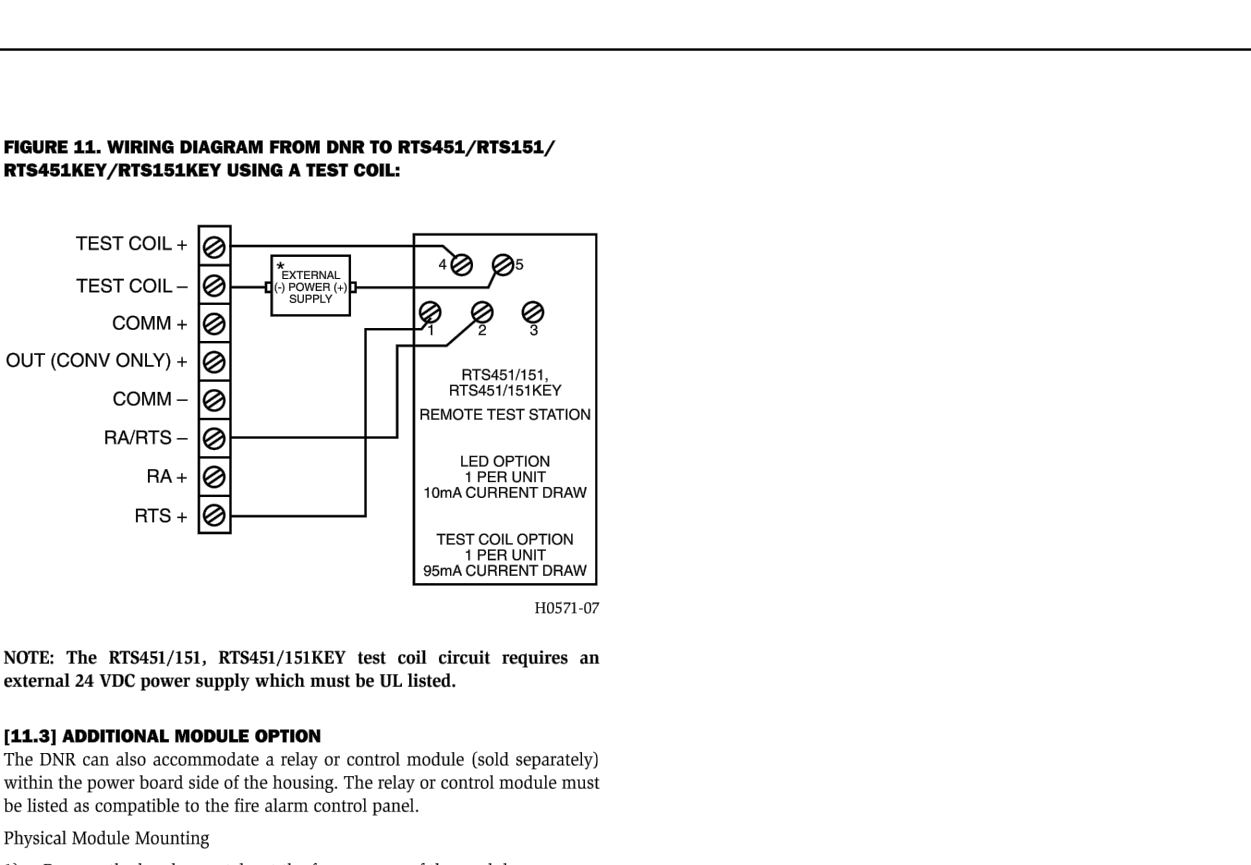
General Description: This section provides detailed instructions for the installation and maintenance of the 3-in duct detector.



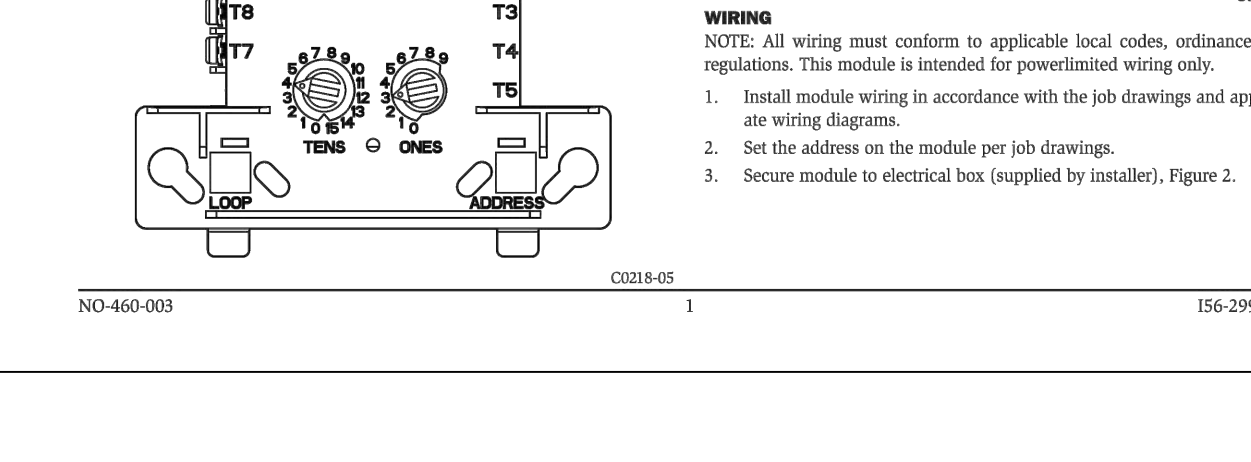
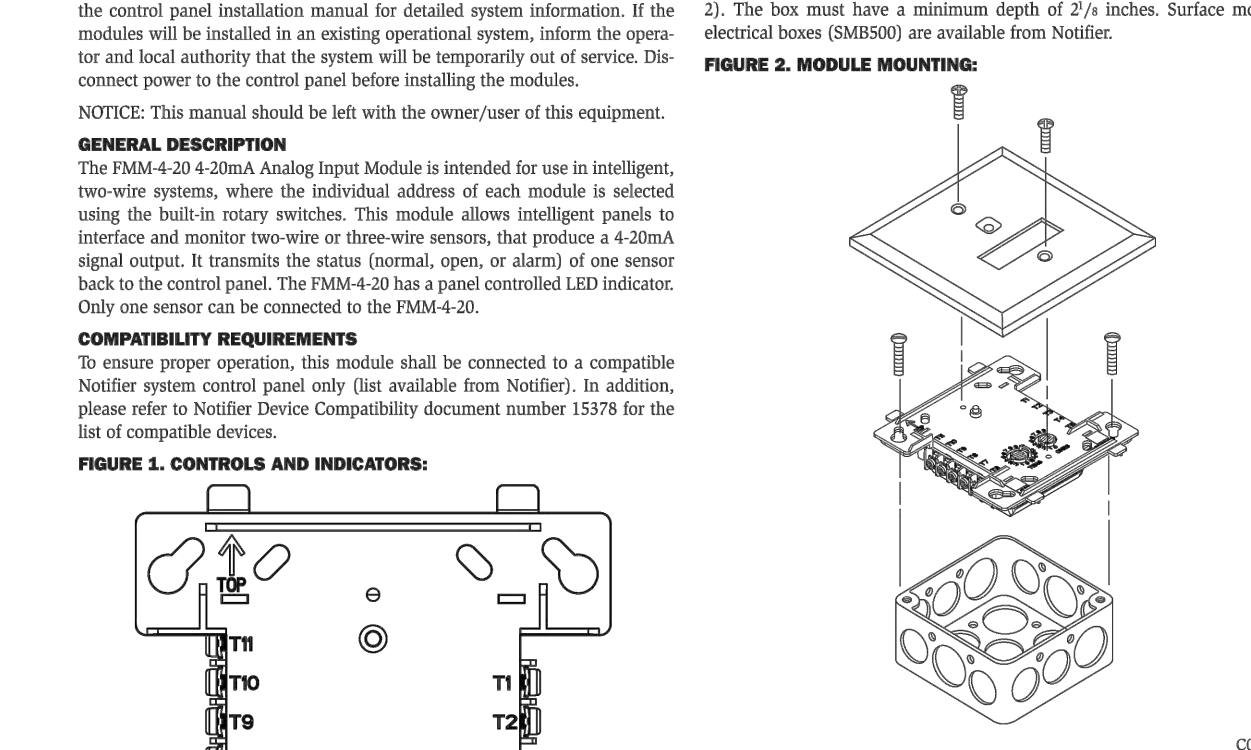
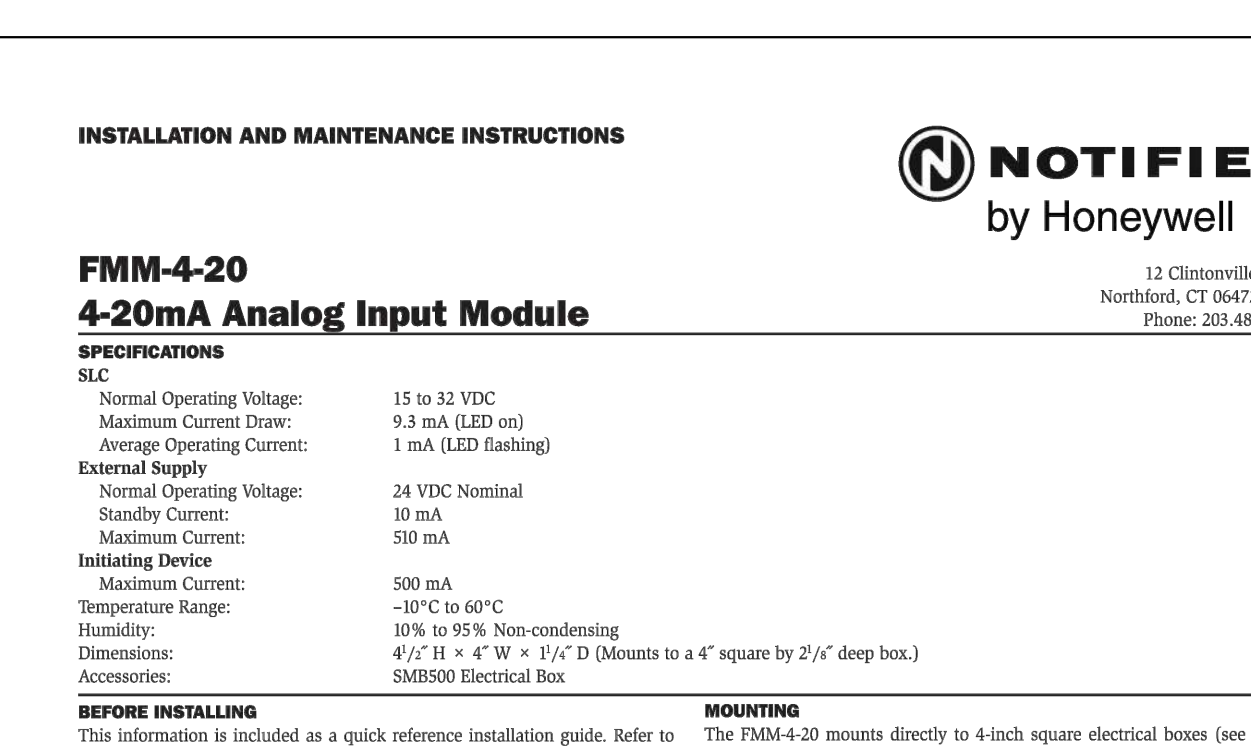
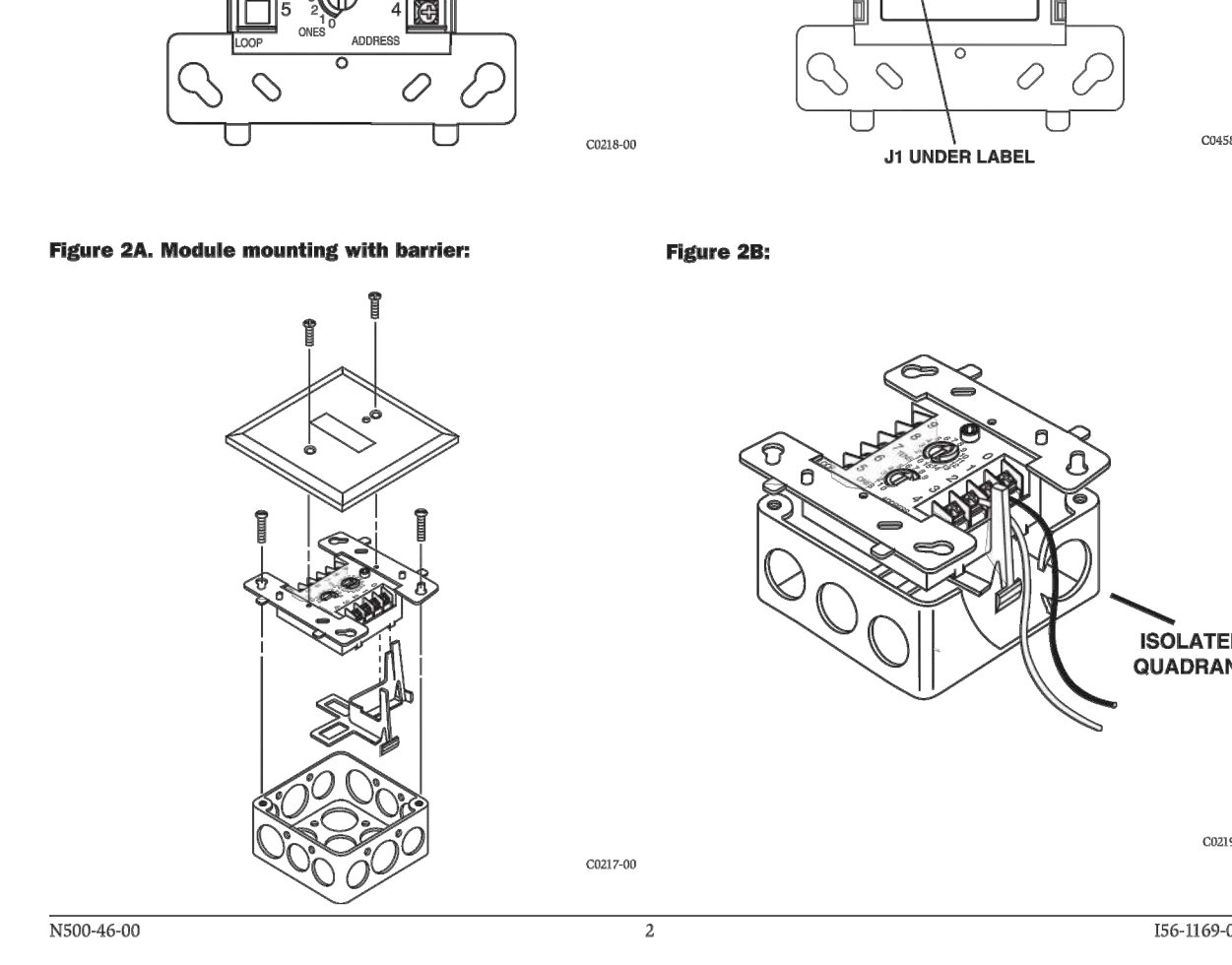
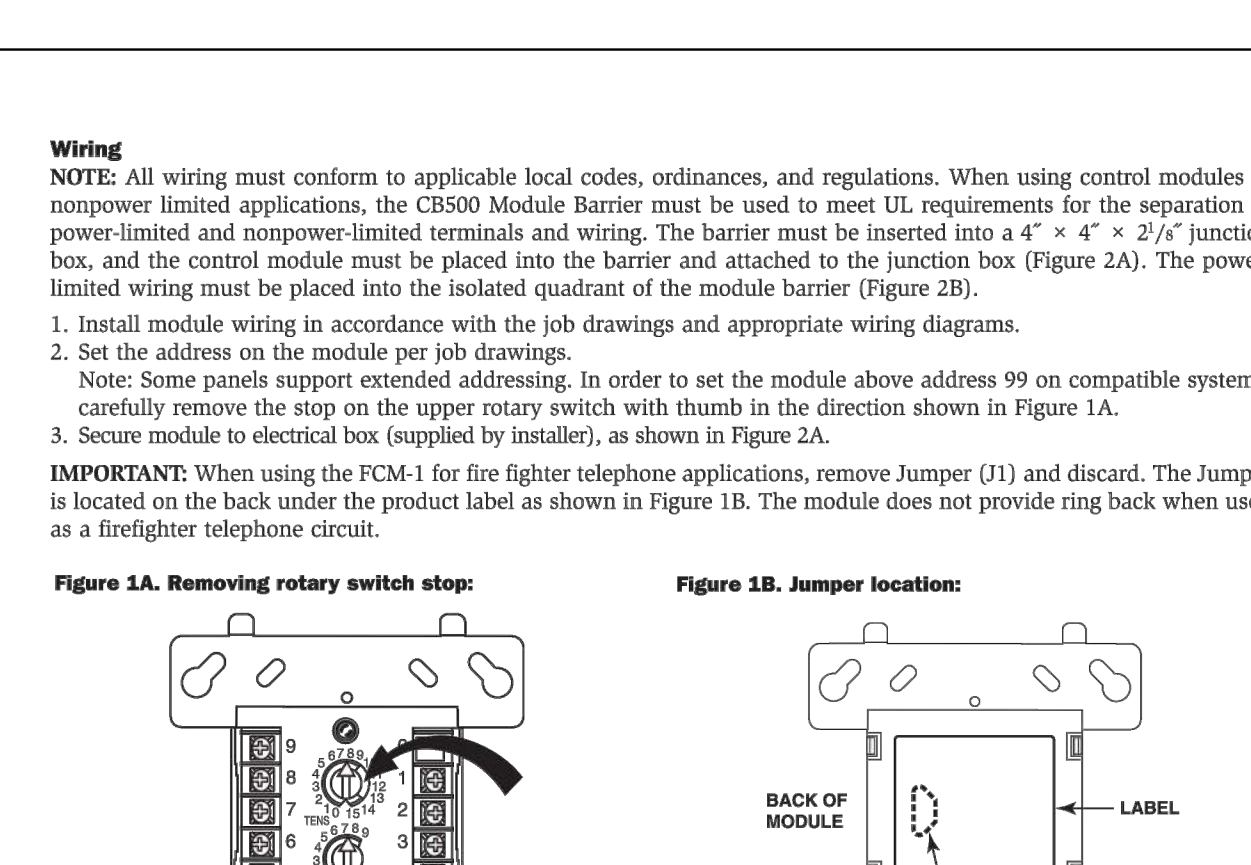
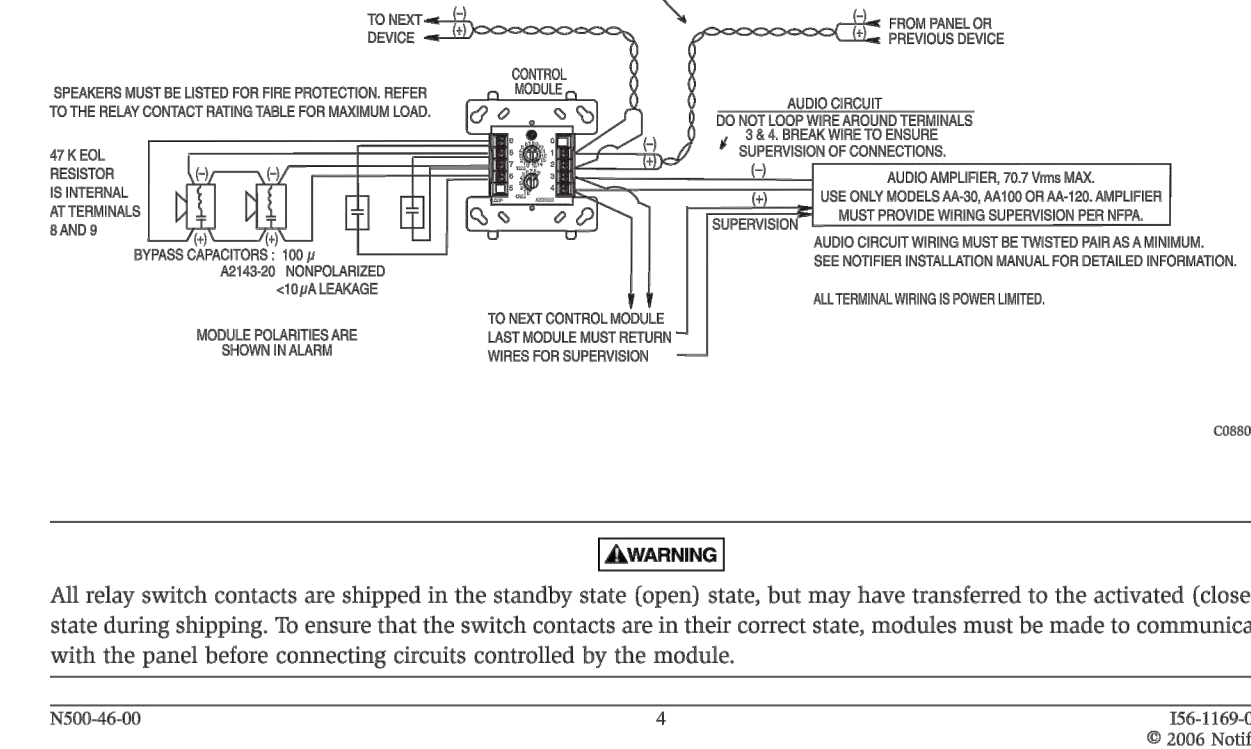
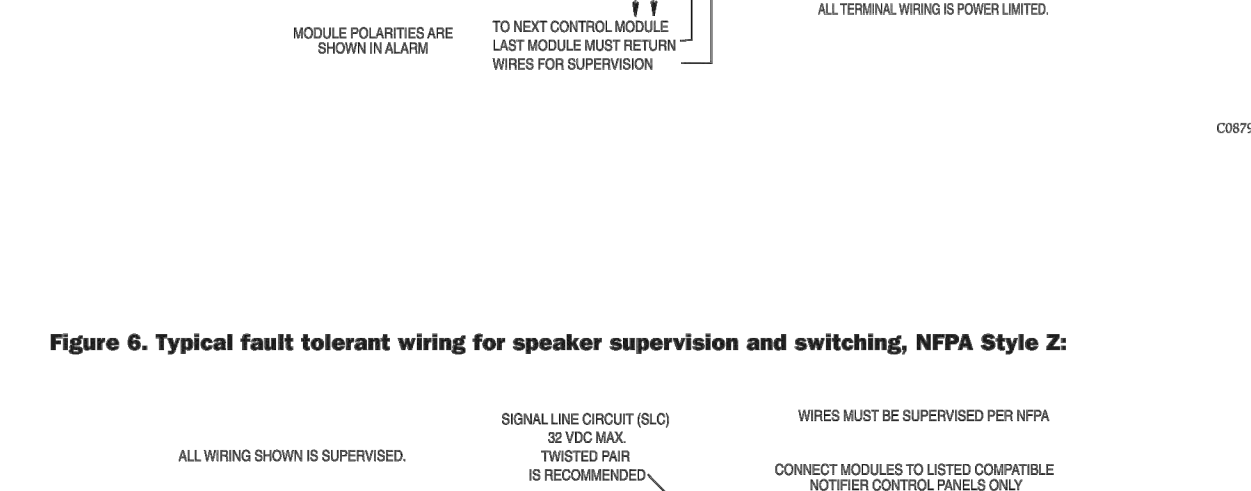
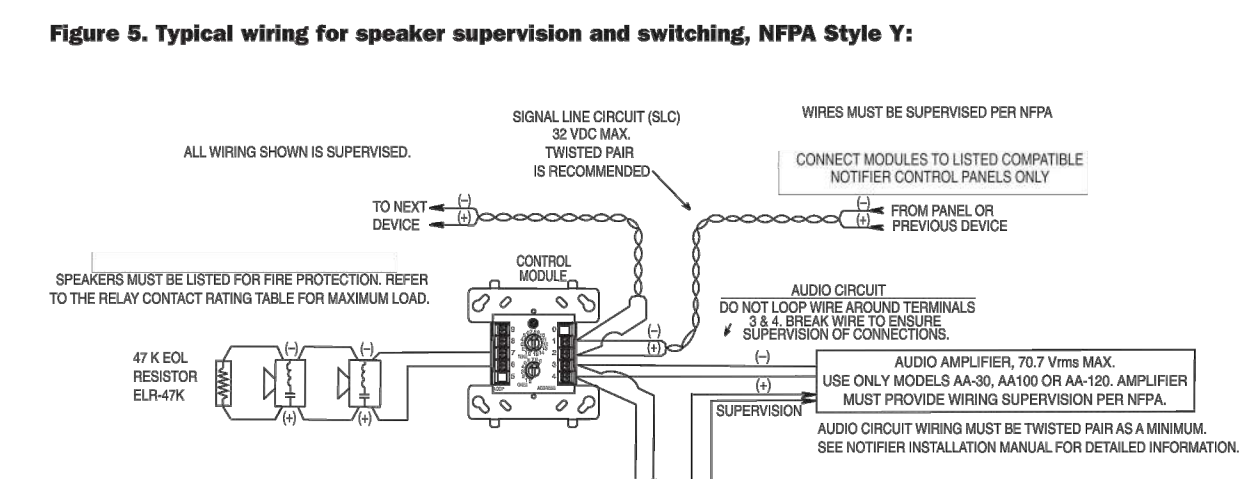
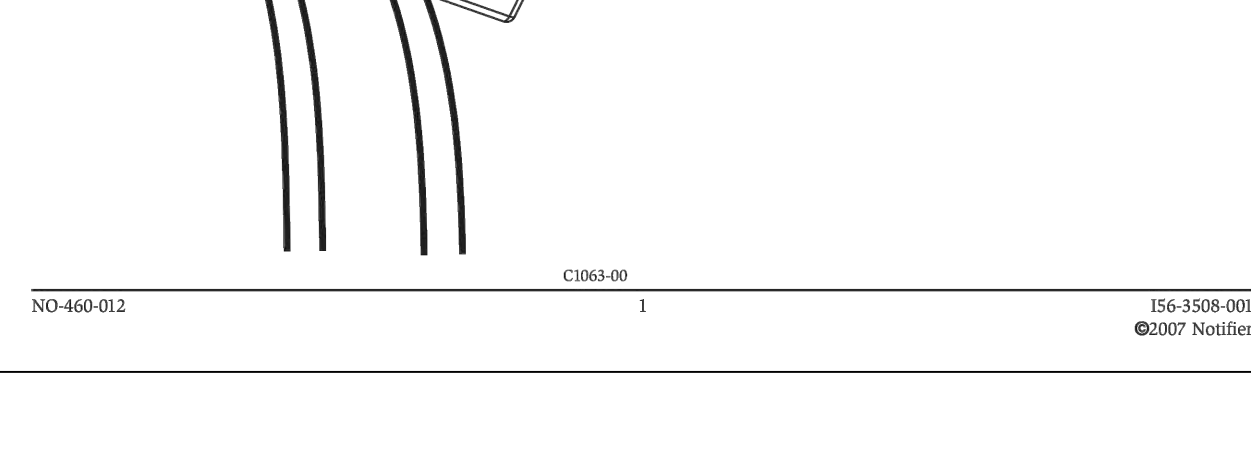
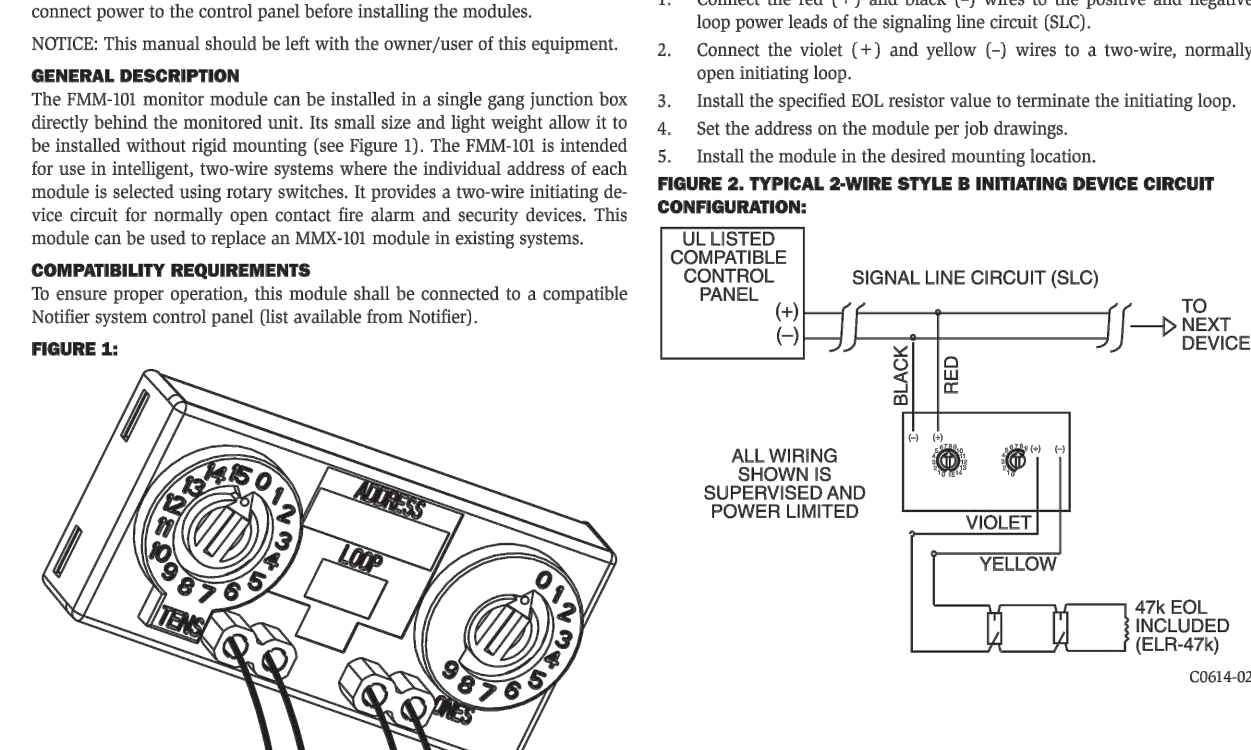
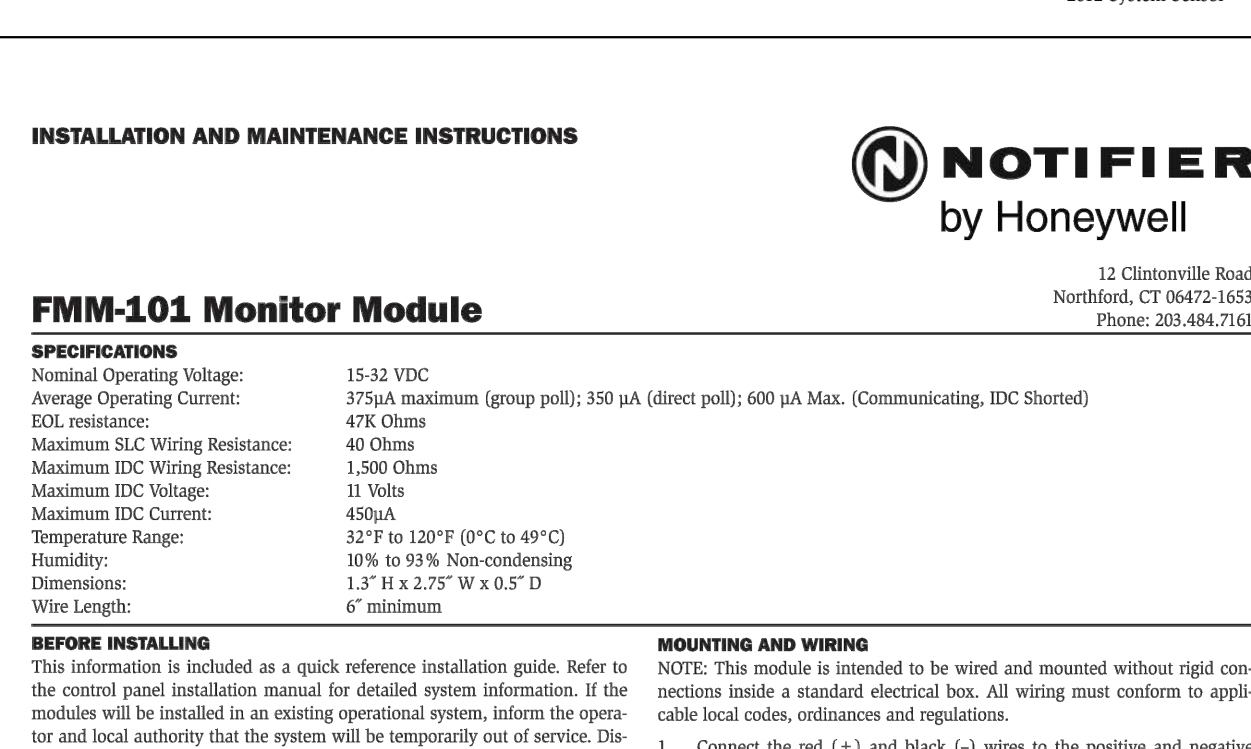
CAUTION: Do not attempt to install the detector until you have read the instructions carefully and completely.



General Description: The 2-in duct detector is designed for use in smaller duct systems. It features a sampling tube that extends into the duct...



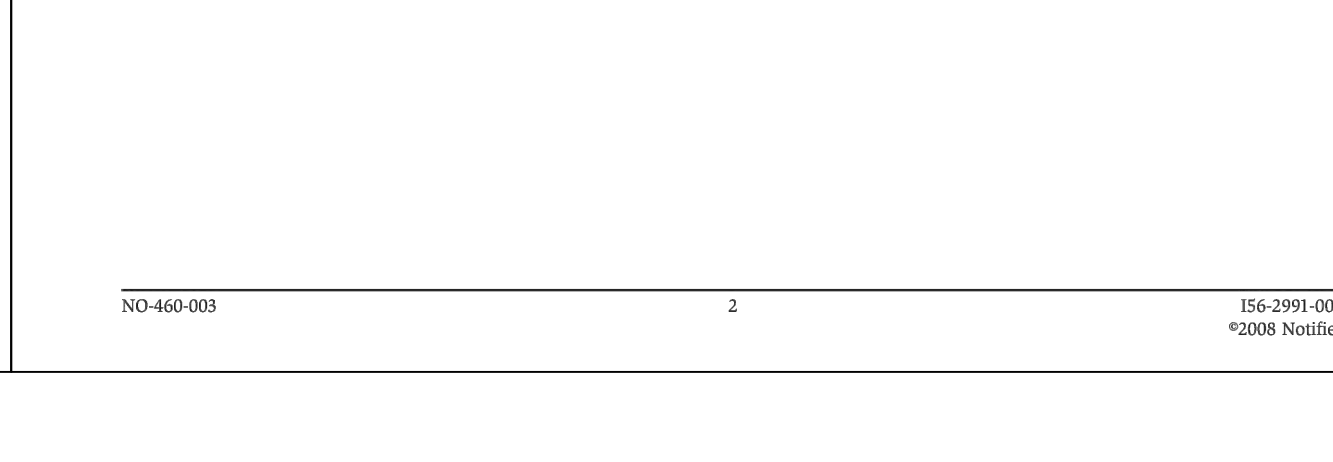
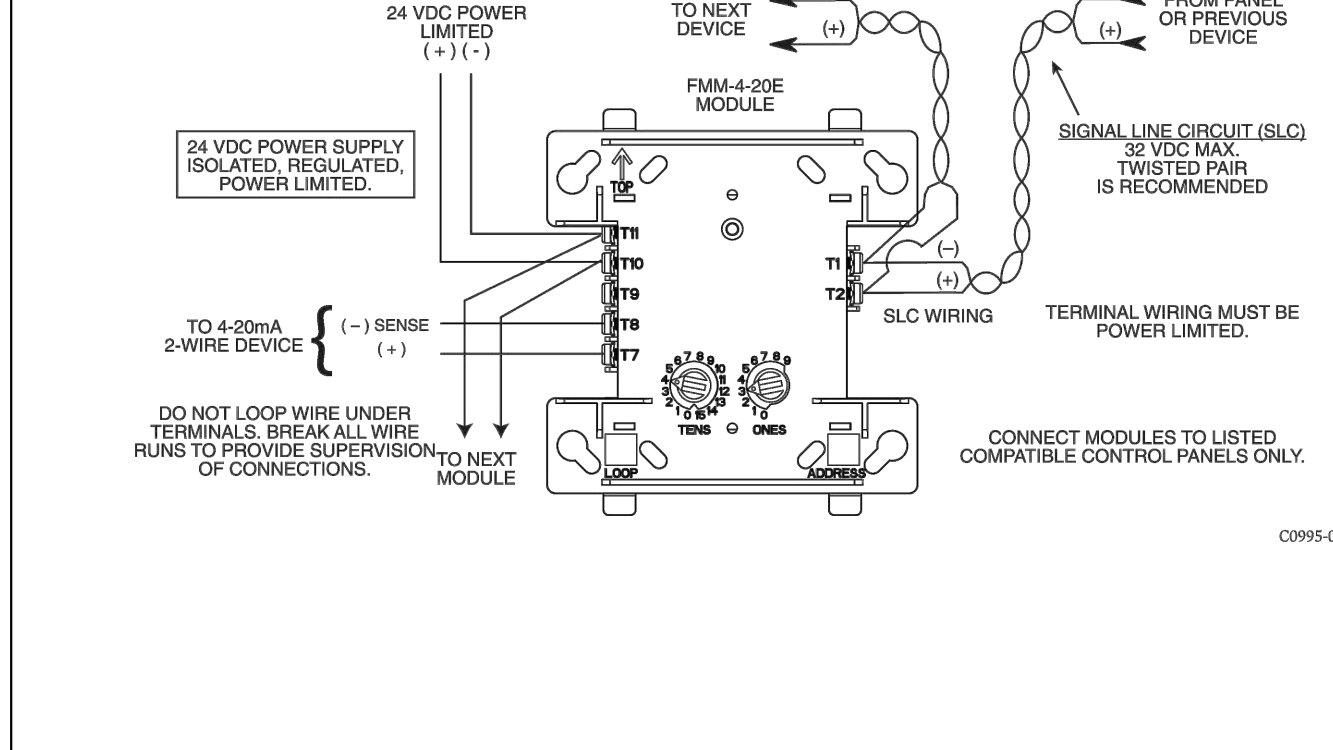
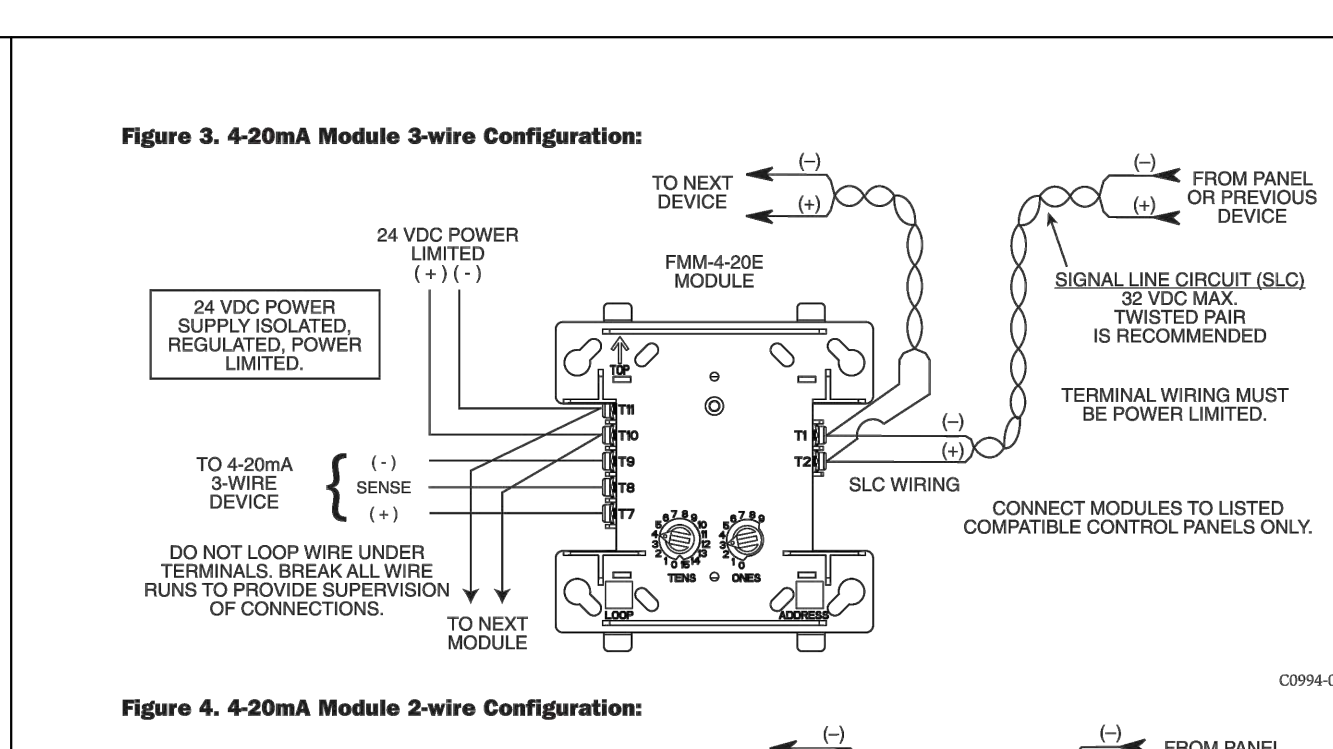
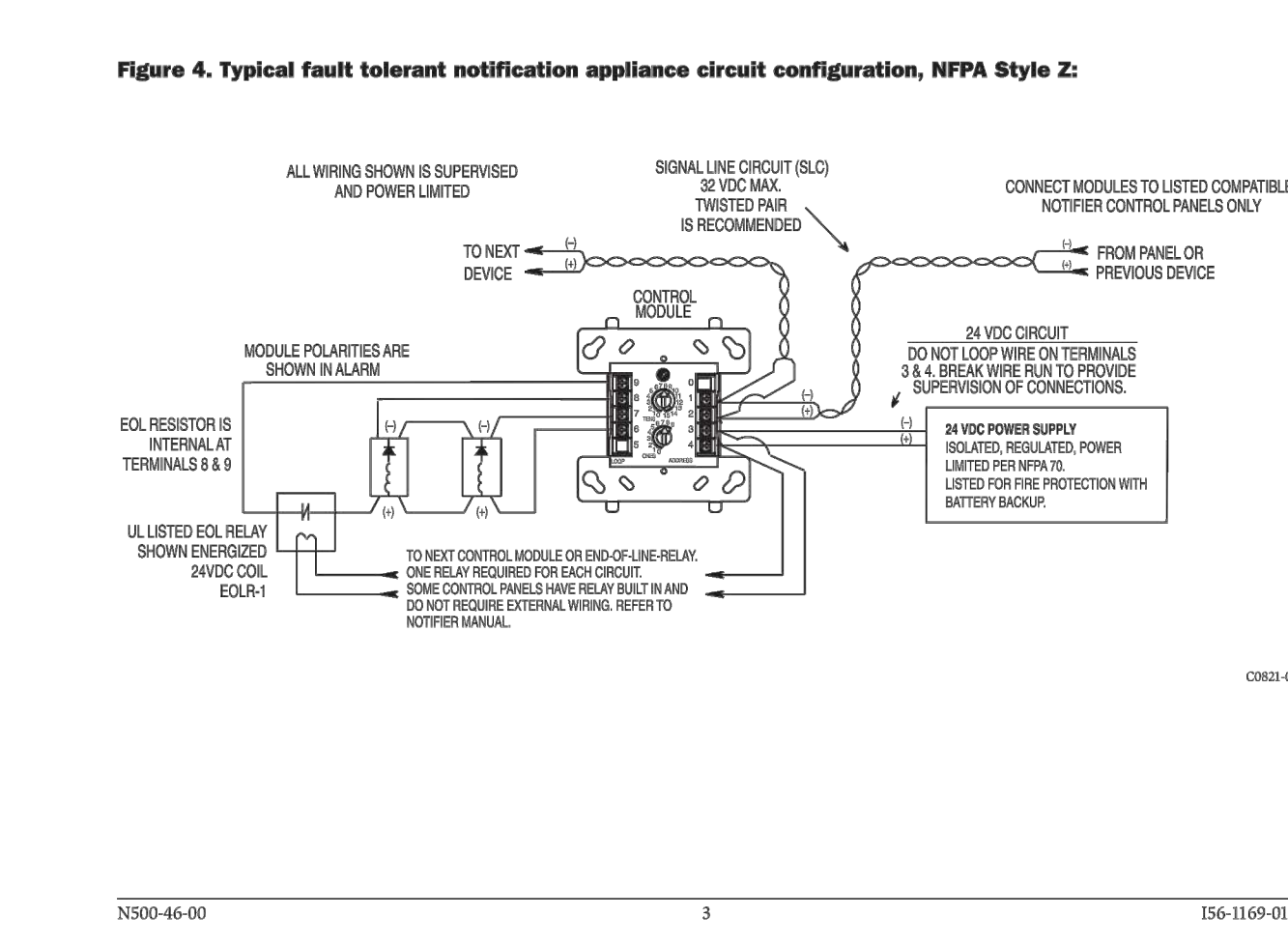
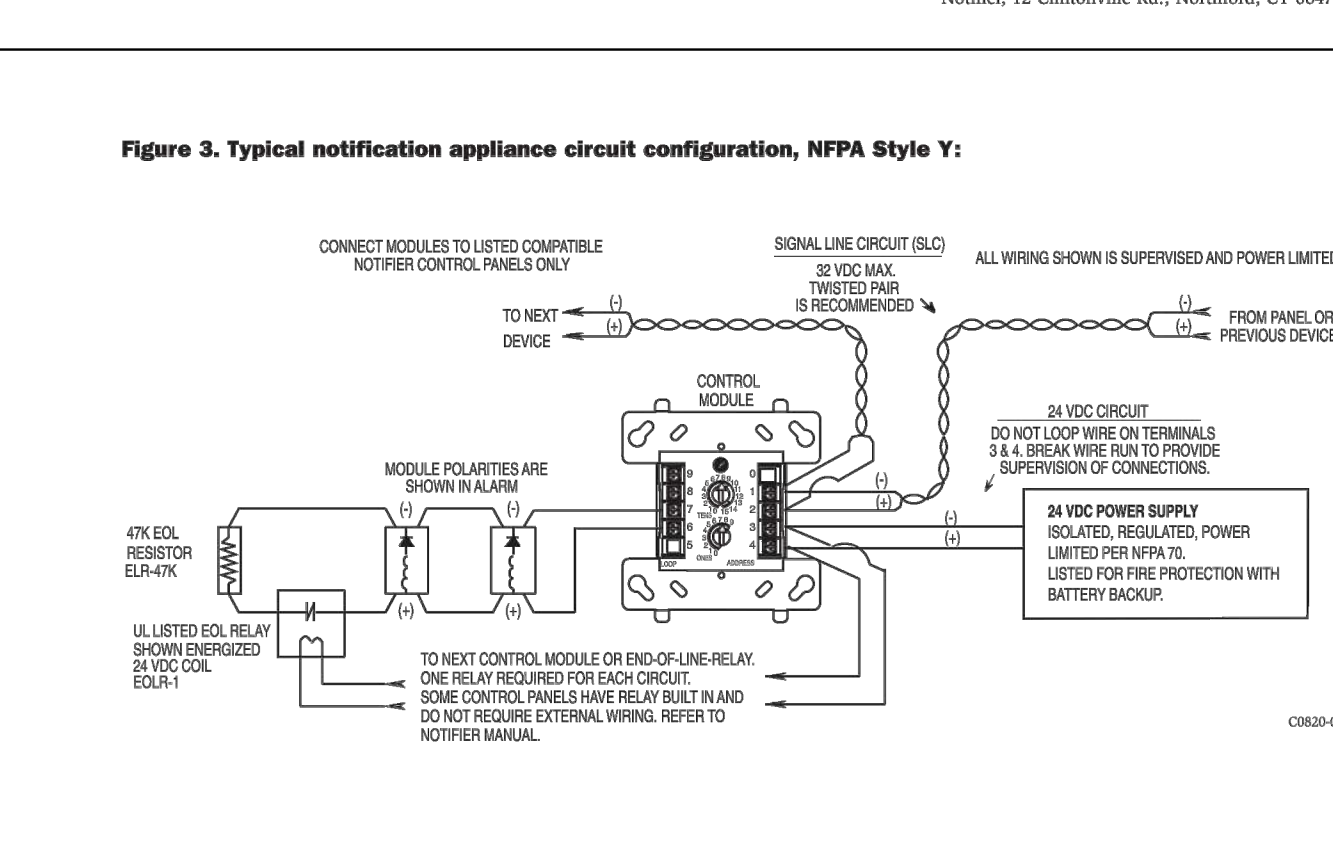
General Description: This section provides detailed instructions for the installation and maintenance of the 2-in duct detector.



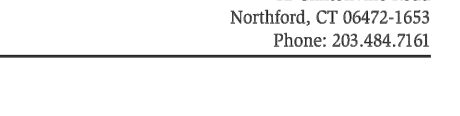
FCM-1 Supervised Control Module Installation And Maintenance Instructions

Specifications: Normal Operating Voltage: 15 to 32 VDC, Maximum Current Draw: 3.5 mA (LED on), Average Operating Current: 1.7 mA (LED off).

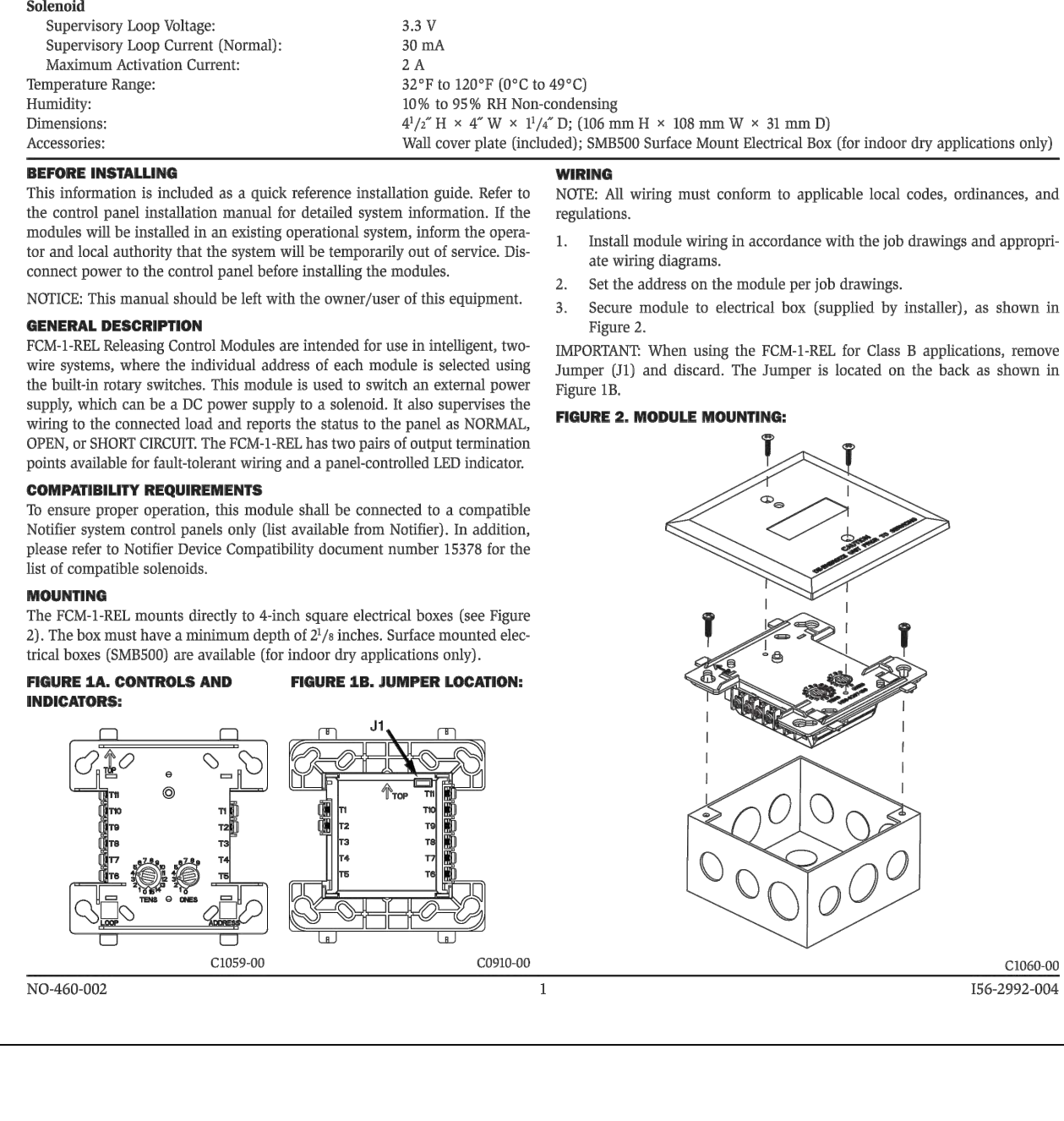
General Description: The FCM-1 Supervised Control Module is intended for use in intelligent, two-wire systems where the individual address of each module is selected using the built-in rotary switches.



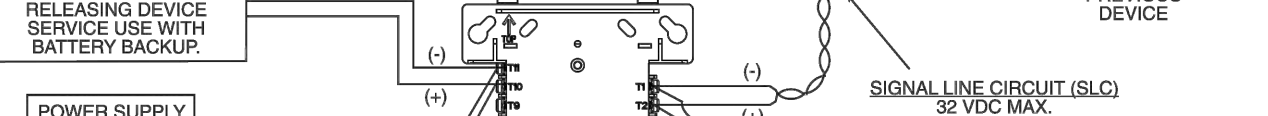
INSTALLATION AND MAINTENANCE INSTRUCTIONS



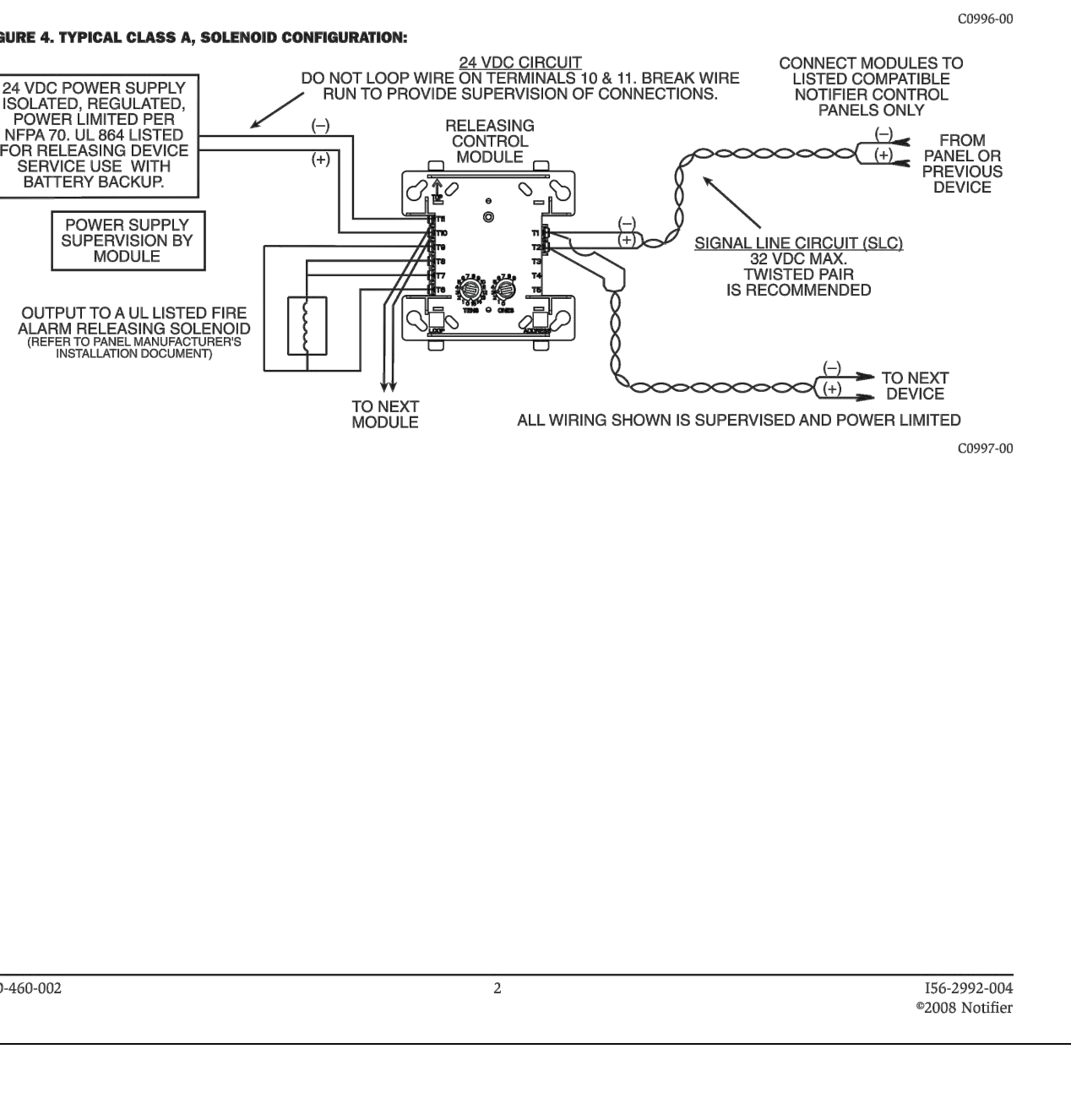
General Description: The FCM-1-REL Releasing Control Module is used to release fire alarm devices in a supervised system.



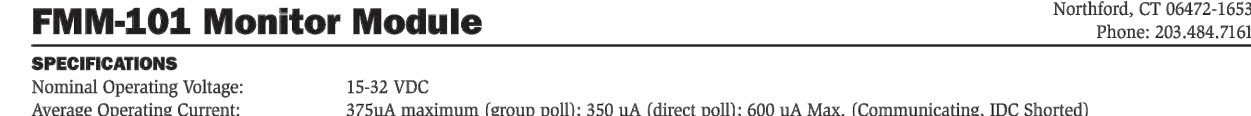
INSTALLATION AND MAINTENANCE INSTRUCTIONS



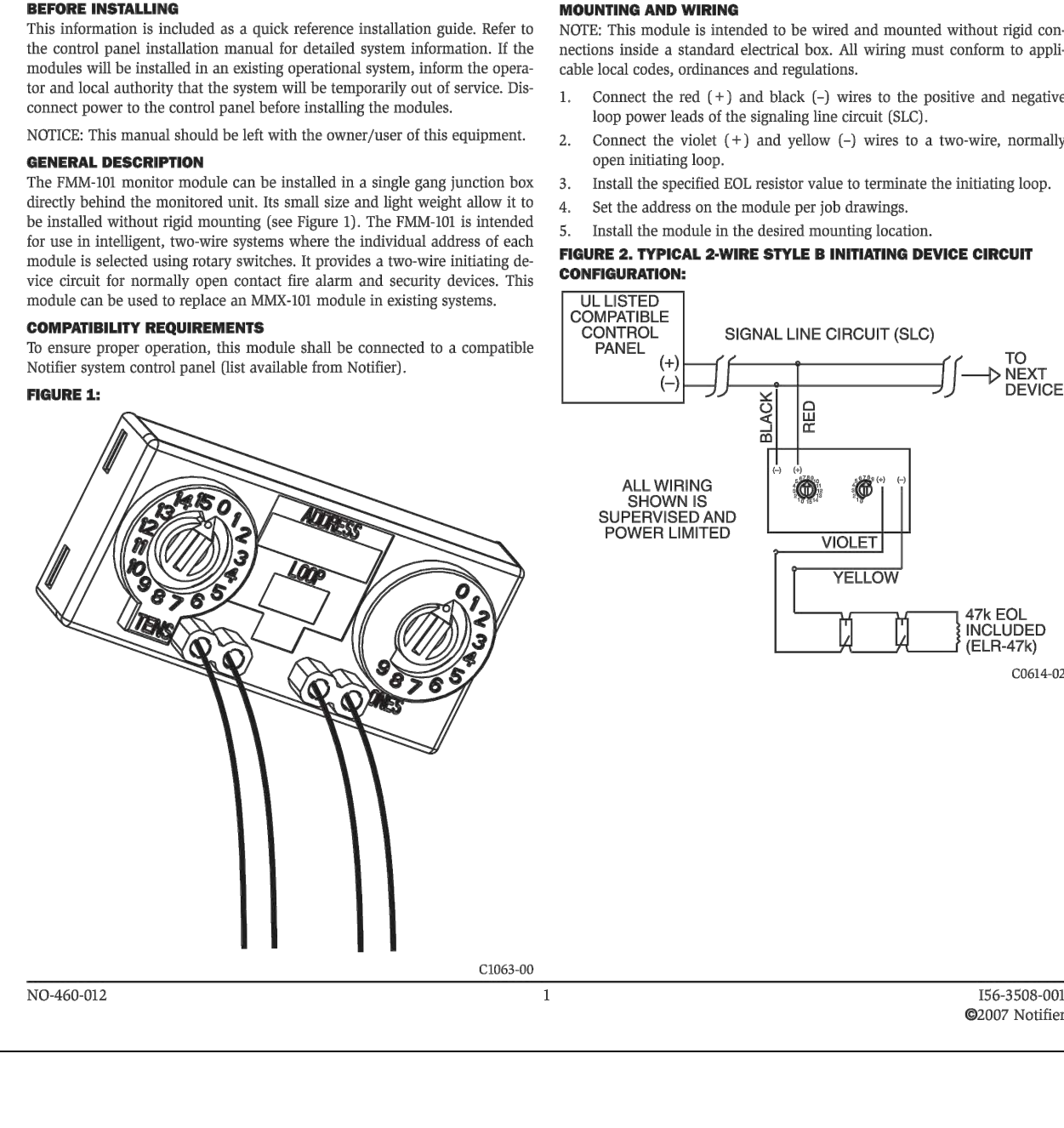
General Description: The FCM-101 Monitor Module is used to monitor fire alarm devices in a supervised system.



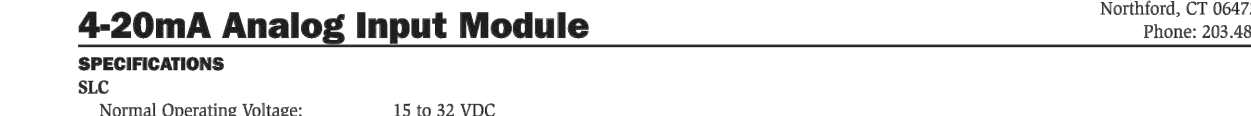
INSTALLATION AND MAINTENANCE INSTRUCTIONS



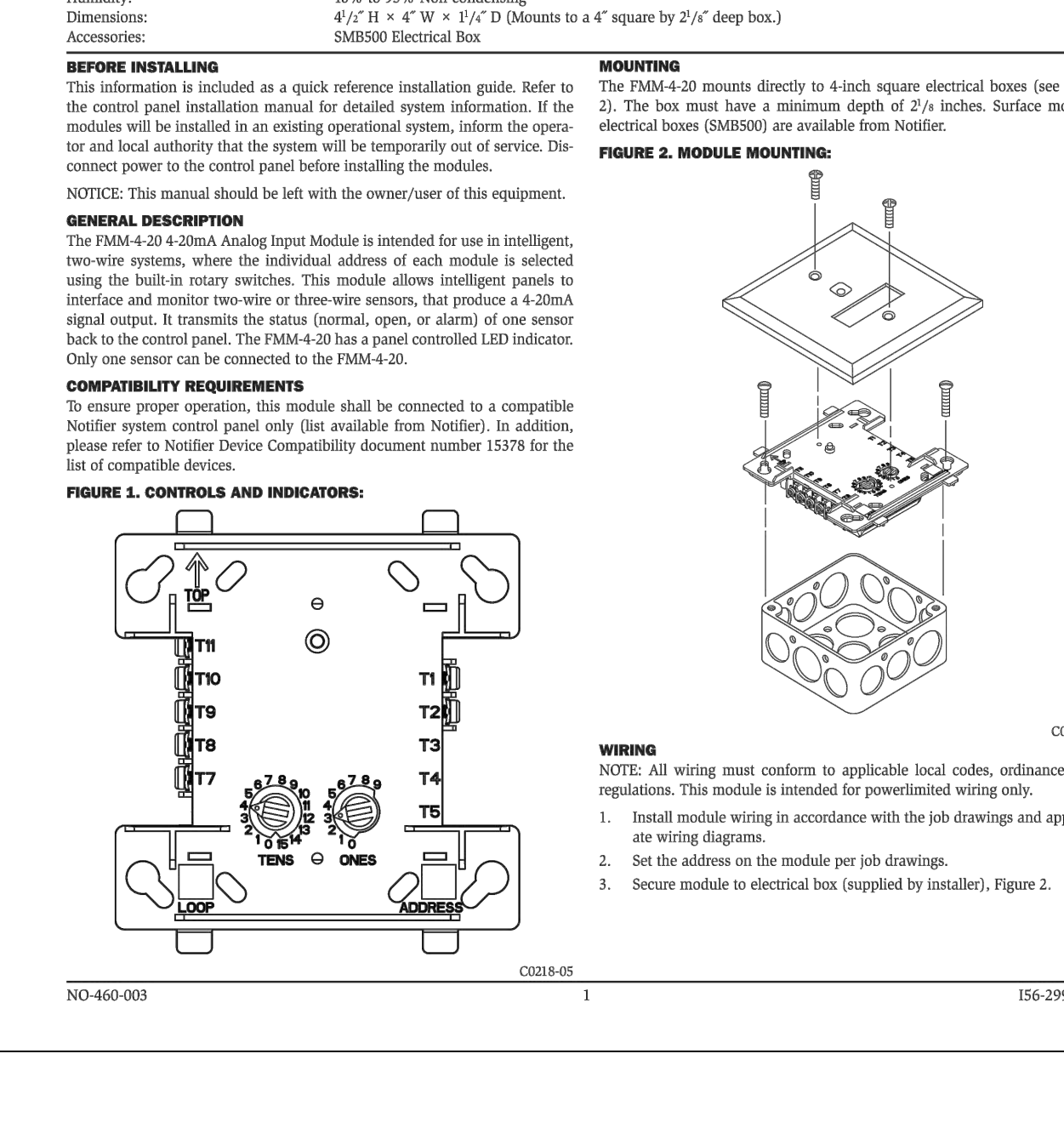
General Description: The FCM-4-20A Analog Input Module is used to interface analog input devices in a supervised system.



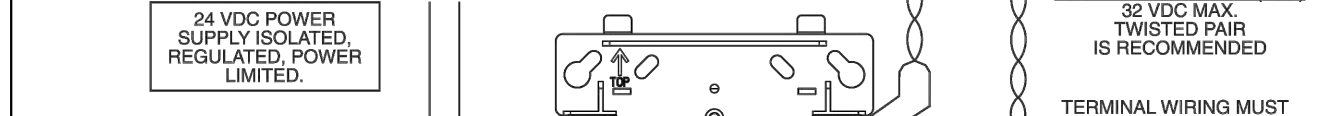
INSTALLATION AND MAINTENANCE INSTRUCTIONS



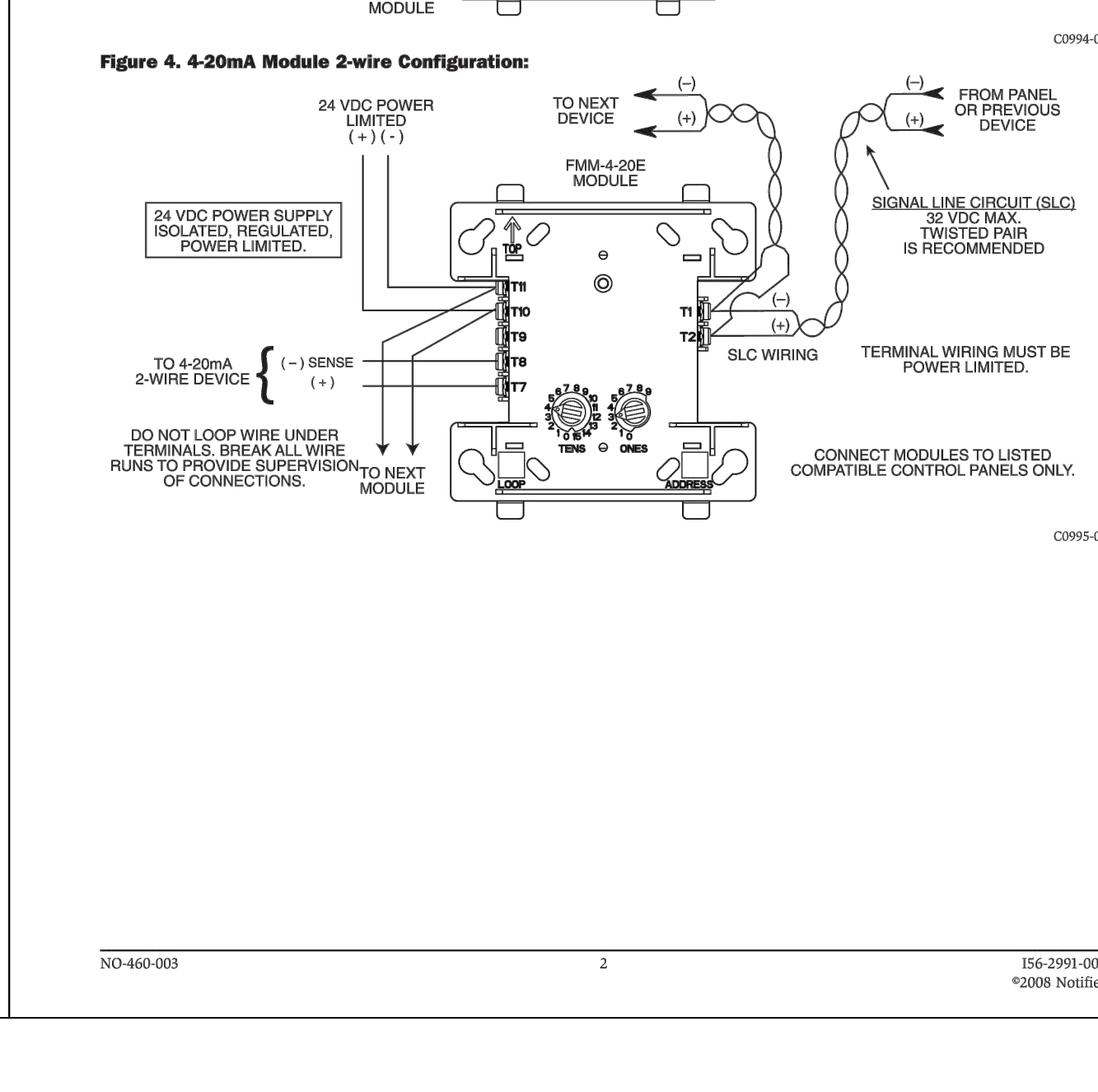
General Description: The FCM-4-20A Analog Input Module is used to interface analog input devices in a supervised system.



INSTALLATION AND MAINTENANCE INSTRUCTIONS



General Description: The FCM-4-20A Analog Input Module is used to interface analog input devices in a supervised system.



INSTALLATION AND MAINTENANCE INSTRUCTIONS



12 Chiswick Road Northford, CT 06472-1653 (203) 494-7565

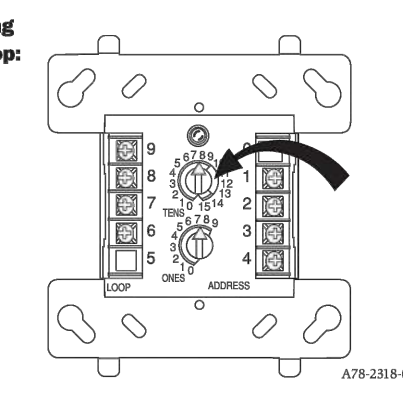
FMM-1 Monitor Module

Specifications table for FMM-1 Monitor Module including Normal Operating Voltage, Maximum Current Draw, Average Operating Current, EOL Resistance, Maximum IDC wiring resistance, Temperature Range, Humidity, Dimensions, and Accessories.

Before Installing This information is included as a quick reference installation guide. Refer to the control panel installation manual for detailed system information.

1. Secure module to electrical box (supplied by installer), as shown in Figure 2A.

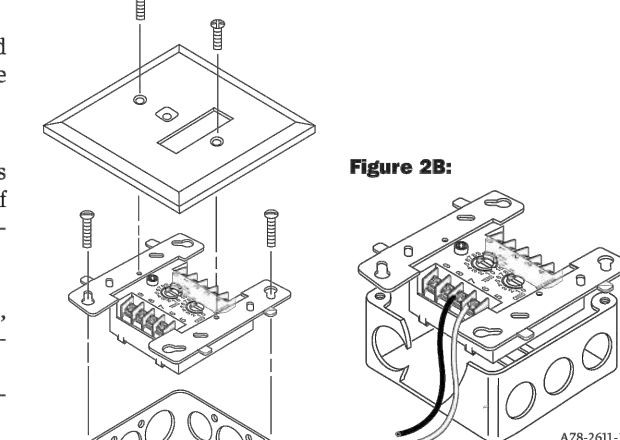
Figure 1. Removing Rotary Switch Stop



General Description

The FMM-1 Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches.

Figure 2A. Module mounting: Note: For UL Listed security installations, the FMM-1 must be mounted within the control panel enclosure.



Mounting The FMM-1 mounts directly to 4" square electrical boxes (see Figure 2A). The box must have a minimum depth of 2 1/4" surface mounted electrical boxes (SM5000) are available fromNotifier.

Wiring NOTE: All wiring must conform to applicable local codes, ordinances, and regulations. This module is intended for power limited wiring only.

- 1. Install module wiring in accordance with the job drawings and appropriate wiring diagrams.
2. Set the address on the module per job drawings.

Note: Some panels support extended addressing. In order to set the module above address 99 on compatible systems, carefully remove the stop on the upper rotary switch with thumb in the direction shown in Figure 1.

INSTALLATION AND MAINTENANCE INSTRUCTIONS



12 Chiswick Road Northford, CT 06472-1653 (203) 494-7565

FRM-1 Relay Control Module

Specifications table for FRM-1 Relay Control Module including Operating Voltage, Normal Operating Voltage, Maximum Current Draw, Average Operating Current, EOL Resistance, Temperature Range, Humidity, Dimensions, and Accessories.

Table with columns: CURRENT RATINGS, MAXIMUM VOLTAGE, LOAD DESCRIPTION, APPLICATION. Lists ratings for 2A, 3A, 5A, 10A, 15A, 20A, 30A, 40A, 50A, 60A, 75A, 90A.

Before Installing This information is included as a quick reference installation guide. Refer to the appropriate control panel installation manual for detailed system information.

NOTE: This manual should be left with the owner/user of this equipment.

General Description The FRM-1 Relay Control Module is intended for use in intelligent, two-wire systems where the individual address of each module is selected using the built-in rotary switches.

NOTE: This manual should be left with the owner/user of this equipment.

Mounting The FRM-1 mounts directly to 4-inch square electrical boxes (see Figure 2A). The box must have a minimum depth of 2 1/4 inches. Surface mounted electrical boxes (SM5000) are available fromNotifier.

Wiring NOTE: All wiring must conform to applicable local codes, ordinances, and regulations. This module is intended for power limited wiring only.

- 1. Install module wiring in accordance with the job drawings and appropriate wiring diagrams.
2. Set the address on the module per job drawings.

Note: Some panels support extended addressing. In order to set the module above address 99 on compatible systems, carefully remove the stop on the upper rotary switch with thumb in the direction shown in Figure 1.

INSTALLATION AND MAINTENANCE INSTRUCTIONS



12 Chiswick Road Northford, CT 06472-1653 (203) 494-7565

FSP-951 and FSP-951-IV Intelligent Photoelectric Smoke Sensors

Specifications table for FSP-951 and FSP-951-IV including Operating Voltage Range, Current Draw, Maximum Alarm Current, Operating Humidity Range, Temperature Range, Humidity, Dimensions, and Accessories.

Before Installing This information is included as a quick reference installation guide. Refer to the appropriate control panel installation manual for detailed system information.

NOTE: This manual should be left with the owner/user of this equipment.

General Description The FSP-951 and FSP-951-IV are plug-in type smoke sensors that combine a photoelectric sensing chamber with addressable analog communications.

NOTE: This manual should be left with the owner/user of this equipment.

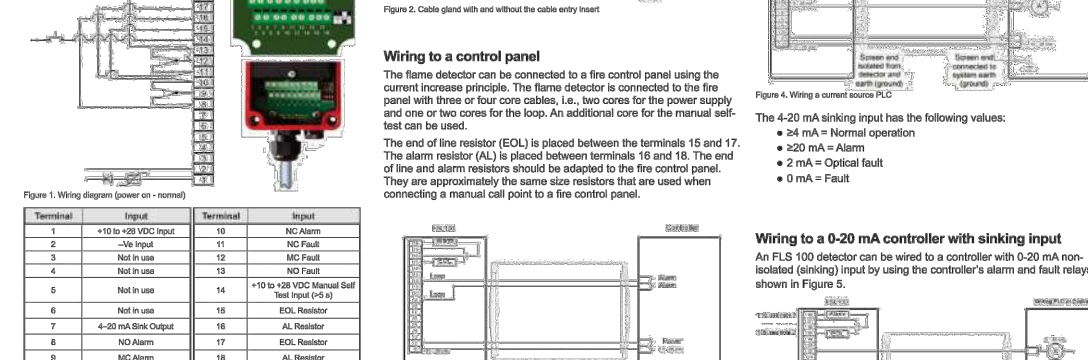
Mounting The FSP-951 mounts directly to 4-inch square electrical boxes (see Figure 2A). The box must have a minimum depth of 2 1/4 inches. Surface mounted electrical boxes (SM5000) are available fromNotifier.

Wiring NOTE: All wiring must conform to applicable local codes, ordinances, and regulations. This module is intended for power limited wiring only.

- 1. Install module wiring in accordance with the job drawings and appropriate wiring diagrams.
2. Set the address on the module per job drawings.

Note: Some panels support extended addressing. In order to set the module above address 99 on compatible systems, carefully remove the stop on the upper rotary switch with thumb in the direction shown in Figure 1.

Honeywell FSL100 Series Flame Detector Quick Start Guide



Before Installing This information is included as a quick reference installation guide. Refer to the appropriate control panel installation manual for detailed system information.

NOTE: This manual should be left with the owner/user of this equipment.

General Description The FSL100 Series Flame Detector is a non-toxic, non-infrared, non-ultraviolet detector that uses a photoelectric sensing chamber with addressable analog communications.

NOTE: This manual should be left with the owner/user of this equipment.

Mounting The FSL100 mounts directly to 4-inch square electrical boxes (see Figure 2A). The box must have a minimum depth of 2 1/4 inches. Surface mounted electrical boxes (SM5000) are available fromNotifier.

Wiring NOTE: All wiring must conform to applicable local codes, ordinances, and regulations. This module is intended for power limited wiring only.

- 1. Install module wiring in accordance with the job drawings and appropriate wiring diagrams.
2. Set the address on the module per job drawings.

Note: Some panels support extended addressing. In order to set the module above address 99 on compatible systems, carefully remove the stop on the upper rotary switch with thumb in the direction shown in Figure 1.

