Johnson Controls Fire Protection 11019 Strang Line Road Lenexa, Kansas 66215 (913) 894-0010 www.JohnsonControls.com



RE: Saint Lukes East Lees Summit 100 Northeast St. Lukes Bl Lees Summit, MO 64086

The following changes were made to the Fire Alarm Drawings: Added Battery Calculations

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# SLE NUCLEAR MEDICINE SPECT CT

## FIRE ALARM SYSTEM

T#: = TRANSPONDER NUMBER

N#: = NAC EXTENDER NUMBER

A# = IDNAC<sup>1</sup> CIRCUIT NUMBER

F# = FIRE PHONE CIRCUIT

M# = IDNET LOOP NUMBER

P# = POWER CIRCUIT NUMBER

S# = SPEAKER CIRCUIT NUMBER

— BRANCH / ISOLATED LOOP DESIGNATOR:

(L#) = IDNET ISOLATED LOOP NUMBER

• (E#:#) = EPR<sup>2</sup> NUMBER:BRANCH NUMBER

1. IDNAC = ADDRESSABLE NOTIFICATION CIRCUIT

V# = VISUAL CIRCUIT NUMBER

(#) = IDNAC BRANCH NUMBER

- CIRCUIT DESIGNATOR

Z# = ZONE NUMBER

— DEVICE NUMBER

1:T2:A2-1(E1:1) 2. EPR = ENHANCED POWER REPEATER

#:T# = NODE:TRANSPONDER NUMBER

D# = DOOR HOLDER CIRCUIT NUMBER

H# = AUDIBLE (HORN) CIRCUIT NUMBER

DRAWING INDEX	LEGENDS	APPLICABLE CODES & STANDARDS	JOHNSON CONTROLS CONTACTS
Sheet Number       Sheet Title         FA-001       COVER SHEET         FA-101       DEVICE DETAILS         FA-601       CALCULATIONS AND SCHEDULES         FA-602       CALCULATIONS AND SCHEDULES	FIRE ALARM SYMBOL LEGEND  SYMBOL DESCRIPTION BRAND MODEL BACKBOX TYPE  INITIATING DEVICES  S ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. STANDARD MASE BASE ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9719 BASE ASSE ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9712 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HEAD ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W. 4-WIRE RELAY MOSS-9714 HE	INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION  INTERNATIONAL FIRE CODE (IFC), 2018 EDITION  NATIONAL FIRE ALARM AND SIGNALING CODE (NFPA 72), 2016 EDITION  NATIONAL ELECTRIC CODE (NFPA 70), 2017 EDITION  OCCUPANCY TYPE(S):  B BUSINESS GROUP  SPRINKLER PROTECTION:  BUILDING IS FULLY SPRINKLED	Sales Representative TODD WHALEN DONALD.TODD.WHALEN@JCI.COM PHONE: 785-249-2200  Scheduling CARLA FRATZEL CARLA.FRATZEL CARLA.FR
	ACCEPTABLE	SCOPE OF WORK  MODIEY EXISTING FIRE ALARM SYSTEM: PROVIDE NEW DEVICES BELOCATE AND DEMO EXISTING DEVICES AS SHOWN ON DRAWINGS	PROJECT DIRECTORY
A-001 dwg	FIRE ALARM WIRE LEGEND  CIRCUIT DESCRIPTION CONSTRUCTION GAUGE CIRCUIT PROPERTIES  A ADDRESSABLE OTP SOLID 14 AWG OFFIR MAX CAPACITANCE; 3 WINSISH. MINIMUM MIDNET UTP SOLID 18 AWG OFFIR MAX TOTAL LINE CAPACITANCE WINSISH. MINIMUM WIDNET UTP SOLID 14 AWG OFFIR MAX TOTAL LINE CAPACITANCE WINSISH. MINIMUM WIDNET UTP SOLID 14 AWG WINSISH. MINIMUM WIDNET UTP SOLID 14 AWG WINSISH. MINIMUM WIDNET WITP SOLID 14 AWG WINSISH. MINIMUM WINSISH WINSISH WINSISH WINSISH WINSISH WINSISH WINSISH WINSINGLING WINSING WINSING WINSING WINSING WI	MODIFY EXISTING FIRE ALARM SYSTEM: PROVIDE NEW DEVICES, RELOCATE AND DEMO EXISTING DEVICES AS SHOWN ON DRAWINGS.  ALL NEW WIRING TO BE CLASS B.  VERIFY ALL CIRCUITS, LOADS, AND ADDRESSES INCLUDING EXISTING AND RELOCATED DEVICES TO WHICH NEW DEVICES ARE CONNECTED. DOCUMENT INFORMATION ON PLANS AND CALCULATIONS.  THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DISCONNECTED OR TAKEN OUT OF SERVICE WITHOUT WRITTEN PERMISSION FROM THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER THE TIMING OF ANY EXISTING FIRE ALARM SYSTEM DEMOLITION WORK.  DESIGN STATEMENT  THIS PROJECT'S DESIGN IS BASED ON THE ENGINEERED PLANS BY ACI BOLAND ARCHITECTS DATED 04/07/2023	Site ST. LUKE'S HOSPITAL 100 NE SAINT LUKE'S BLVD LEE'S SUMMIT, MO 64086  Engineer Of Record ACI/BOLAND, INC 1710 WYANDOTTE KANSAS CITY, MO 64108  ST. LUKE'S HOSPITAL 11019 STRANG LINE ROAD LENEXA, KS 66215 PHONE: 913-894-0010 FAX: 913-894-0010 FAX: 913-894-0010  SERVICE: 913-894-0010  SHAW ELECTRIC COMPANY 3600 FULLER AVE KANSAS CITY, MO 64108
Set	INSTALLATION. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURER AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS AND MODEL NUMBERS ARE AVAILABLE UPON REQUEST.	ABBREVIATIONS LEGEND	DEVICE TAG LEGEND
		AC = ABOVE CEILING  AFF = ABOVE FINISHED FLOOR  AHJ = AUTHORITY HAVING JURISDICTION  ALM = ALARM  ANN = ANNUNCIATOR  NEC = NATIONAL ELECTRIC CODE  NFPA = NATIONAL FIRE PROTECTION ASSOCIATION  NIC = NOT IN CONTRACT  NPU = NETWORK PROCESSING UNIT  NTS = NOT TO SCALE	PANEL DESIGNATOR  • FA: = FACP (NON-NETWORK)  • #: = NODE NUMBER  • T#: - TRANSPONDER NUMBER

## **GENERAL NOTES**

- THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. EXACT ROUTING OF CONDUITS IS TO BE DETERMINED IN THE FIELD BY THE INSTALLING CONTRACTOR TO SUIT CONDITIONS. ALL CHANGES SHALL BE CLEARLY INDICATED ON 2. SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN
- 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. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.

THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT JOHNSON CONTROLS IN A TIMELY MANNER SO AS NOT TO IMPAIR THE

- 4. A STAMPED SET OF APPROVED FIRE ALARM DRAWINGS SHALL BE AT THE JOB SITE AND SHALL BE USED FOR INSTALLATION. 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
- 6. UPDATE THE AS-BUILT DRAWING SET DAILY WITH JOB PROGRESS. RETURN THE AS-BUILT DRAWING SET TO JOHNSON CONTROLS NO
- THE CONTRACTOR WILL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT AND WORKMANLIKE MANNER. 8. DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED JOHNSON CONTROLS TECHNICAL REPRESENTATIVE. ANY SMOKE DETECTOR HEAD INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM
- DUST. ANY FALSE ALARMS DUE TO DIRT CONTAMINATED HEADS SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM INSTALLER. 10. THE FIRE ALARM INSTALLER WILL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES ANY TIME THAT WORK IS NOT ACTIVELY BEING PERFORMED. 11. 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 AND APPLICABLE ELECTRICAL CODES. REFER TO 'APPLICABLE CODES & STANDARDS' FOR SPECIFIC CODE REFERENCES. 12. ALL WIRING SHALL BE INSTALLED ACCORDING TO APPLICABLE ELECTRICAL CODES. 13. FIRE ALARM CIRCUITS SHALL BE IDENTIFIED IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES. MARK ALL FIRE ALARM WIRES IN

ACCORDANCE WITH APPLICABLE ELECTRICAL CODE SECTIONS FOR POWER LIMITED AND NON-POWER LIMITED WIRE.

- 14 FIRE ALARM CABLE INSTALLED IN DUCTS, PLENUM, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FPLP. 15. FIRE ALARM CABLE INSTALLED IN THE VERTICAL RUNS AND PENETRATING MORE THAN ONE FLOOR OR CABLES INSTALLED IN VERTICAL
- RUNS IN SHAFTS SHALL BE TYPE FPLR. 16. FIRE ALARM CABLE INSTALLED IN UNDERGROUND CONDUIT OR OTHER WET LOCATIONS SHALL BE UL LISTED FOR WET LOCATIONS. 17. FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOORS SHALL BE INSTALLED IN ACCORDANCE APPLICABLE
- ELECTRICAL CODES, WHERE APPLICABLE. 18. ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
- 19. ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY AT FULL LENGTH OF THE WIRE. 20. ONLY SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT. 21. 120VAC IS NOT PERMITTED IN THE SAME CONDUIT WITH LOW VOLTAGE WIRING.
- 22. MAINTAIN MAXIMUM CONDUIT FILL RATIO AS PER APPLICABLE ELECTRICAL CODES REQUIREMENTS.
- 23. 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. JOHNSON CONTROLS MAKES NO STATEMENTS WRITTEN OR VERBAL AS TO THE CONDITION OF EXISTING CONDUITS.

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	SYSTEM OUTPUTS	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTUATE APPROPRIATE LOCATION INDICATOR	ACTUATE ALL AUDIBLE EVACUATION SIGNALS	ACTUATE ALL VISIBLE EVACUATION SIGNALS		DISPLAY CHANGE OF STATUS	TRANSMIT ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION		RELEASE MANGNETICALLY HELD SMOKE DOORS	ACTIVATE INPUT TO NURSE CALL		NTRO	
	SYSTEM INPUTS	A	В	С	D	E	F	G	Н	ı	J	K	L	М	N	0	Р	Q	R	s	T
1	SMOKE SENSOR/DETECTOR	X	Х	Ť	_	_	-	X	Х	Х		Х	X	<u> </u>	<u> </u>		•			1	긤
2	SMOKE SENSOR/DETECTOR BY DOOR HOLDERS	Х	Х					Х	Х	Х		Х	Х				Х	Х		$\neg$	$\dashv$
3	SMOKE SENSOR/DETECTOR IN PATIENT ROOM	Χ	Х					Χ	Χ	Х		X	Х								
4	FIRE ALARM AC POWER FAILURE					Χ	X					Χ			Х						
5	FIRE ALARM SYSTEM LOW BATTERY					X	X					X			Х						
6	OPEN CIRCUIT OR GROUND FAULT					X	X					X			X						
( <b>F</b> O	PCRESE RENOTE COMITION MARKETATINE MCST SHIGHSEC	UEN	CE C	F OF	PERA	1 <b>OK</b> T	1) <b>X</b>					X			X						

RC = EXISTING TO REMOVE AND COVER

RL = RELOCATED DEVICE

SCC = STATUS COMMAND CENTER

SLC = SIGNALING LINE CIRCUIT

UON = UNLESS OTHERWISE NOTED

VCC = VOICE COMMAND CENTER

TOS = TOP OF SHAFT TRBL = TROUBLE

TS = TAMPER SWITCH

VT = VALVE TAMPER

W = WATTAGE

WF = WATERFLOW

WP = WEATHERPROOF

XP = EXPLOSION PROOF

W/O = WITHOUT

RD = EXISTING DEVICE TO BE RELOCATED

RR = REMOVE EXISTING & REPLACE WITH NEW

TAC = TRUEALERT ADDRESSABLE CONTROLLER

BMS = BUILDING MANAGEMENT SYSTEM

C = CEILING MOUNTED

DGP = DATA GATHERING PANEL

EPO = EMERGENCY POWER OFF

FAA = FIRE ALARM ANNUNCIATOR

FACP = FIRE ALARM CONTROL PANEL

FTR = FIRE ALARM TRANSPONDER

HVAC = HEATING VENTILATION & AIR CONDITIONING

**EXISTING SYSTEM SEQUENCE OF OPERATIONS** 

IMS = INFORMATION MANAGEMENT SYSTEM

NAC = NOTIFICATION APPLIANCE CIRCUIT

FBO = FURNISHED BY OTHERS FCC = FIRE COMMAND CENTER

FSD = FIRE SMOKE DAMPER

H = HIGH HUMIDITY

N/A = NOT APPLICABLE

HT = HEIGHT

MAX = MAXIMUM

FATC = FIRE ALARM TERMINAL CABINET

ER = ELEVATOR RECALL

E = EXISTING TO REMAIN

CD = CANDELA RATING

DET = DETECTOR

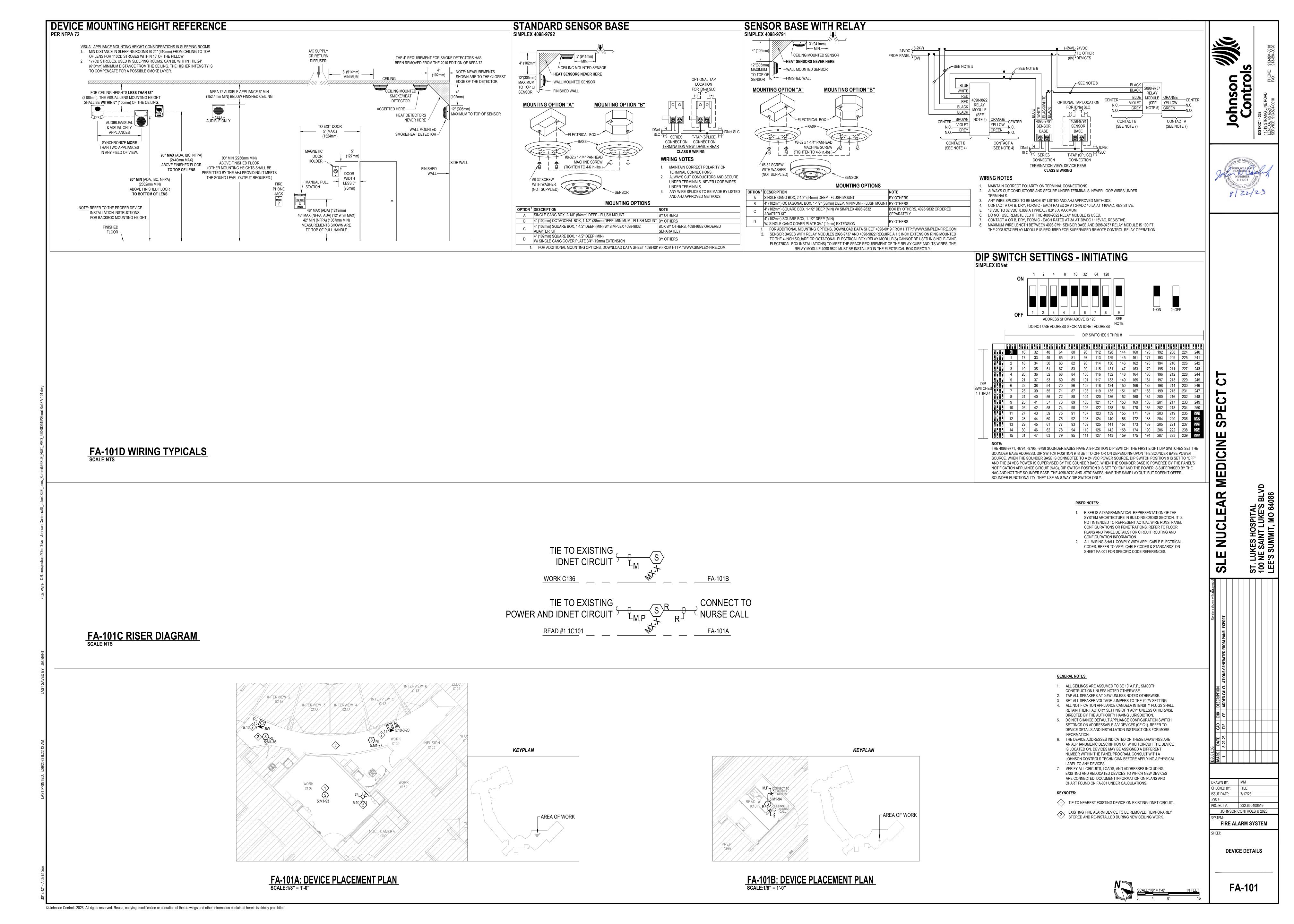
EOL = END OF LINE

SSUE DATE: 7/17/23 PROJECT #: 332:650400519 JOHNSON CONTROLS © 2023

FIRE ALARM SYSTEM

**COVER SHEET** 

**FA-001** 



### 3. Backup Amplifier assumes Main Amplifier alarm current on failure.

1. Base FACP includes current draw for all included components. See data sheet for details.

			Standby	Standby	Alarm	Alarm
Battery Set #1 (Cabinet/Charger #1)			Current	Total	Current	Total
Select ALL Power Supplies on this battery set:						
ESPS-1				1.0214		7.6170
ESPS-2				0.0856		2.9810
Amp-1				0.0850		3.8000
			Sub Total	1.1920		14.3980
dditional Current Draws:						
IDNac Current Boost for 29vdc Regulated Output **						4.1391
RUI Connected Periphera	l Device:	<b>s</b> 0	x 0.0035	= 0.0000	x 0.0035	= 0.0000
MAPNET/IDNet Device Address Communication	n Curren	t 196	x 0.000800	= 0.1568	x 0.001000	= 0.1960
			Sub Total	1.3488		18.7331
Spare addressable point capacity	0%	0	x 0.0008	= 0.0000	x 0.001	= 0.0000
			Total	1.3488		18.7331
Standby Time =	24	Hrs	x 1.3488	= 32.3714	Standby Ah	
Alarm Time =	15	— Min	0.25 x 18.7331	= 4.6833	Alarm Ah	
				37.0547		
Additional Spare Battery Capacity =	0%		+	0.0000		
·		_	_	37.0547		
Battery Discharge Factor =	20%		+	7.4109		
Minimum Battery Required	2081-92	96 50AH (2x)	-	44.4656		
Battery Supplied						

\* System Totals represent total system current requirements. Those currents may be distributed between multiple battery sets or power supplies as shown above.

## \*\* IDNac Current Boost formula: ((29.5 \* IDNac Alarm Current) / .92) / 20.4 = Adjusted Current DC-DC Converter Output = 29.5vdc. Terminal Output is 29vdc due to 0.5vdc internal loss. Converter Worst Case efficiency is 92%, 20.4vdc represents battery output in 85% depleted state

			Standby	Standby	Alarm	Alarm
Battery Set #2 (Cabinet/Charger #2)			Current	Total	Current	Total
Select ALL Power Supplies on this battery set:						
ESPS-3				0.0688		0.2090
ESPS-4				0.0896		3.6410
			Sub Total	0.1584		3.8500
Additional Current Draws:						
IDNac Current Boost for 29vdc Regulated Output **				0.0000		2.1072
MAPNET/IDNet Device Address Communication	n Current	t 0	x 0.000800	= 0.0000	x 0.001000	= 0.0000
			Sub Total	0.1584		5.9572
Spare addressable point capacity	0%	0	x 0.0008	= 0.0000	x 0.001	= 0.0000
			Total	0.1584		5.9572
Standby Time =	24	Hrs	x 0.1584	= 3.8016	Standby Ah	
Alarm Time =	15	_ Min	0.25 x 5.9572	= 1.4893	Alarm Ah	
				5.2909	-	
Additional Spare Battery Capacity =	0%		+	0.0000		
		_	_	5.2909	-	
Battery Discharge Factor =	20%		+	1.0582		
Minimum Battery Required		'4 10ΔH (2x)	_	6.3491		
Battery Supplied						

Amplifier	Watts	Alarm	Expansion	Avail.	Used	%
Wattage	Used		Card?	Ckts.	Ckts.	Used
100	41.W	3.800A	No	6	5	#####

*Circuit Voltage = 70vrms [Et]														MAXIMUM -	3 dB DROP
				Total	Total	Wire	Est. Ckt.	Wire Res.	Circuit	Speaker	Speaker	Voltage	Watts	Actual	Max Allowable
		Plan	Speaker	Spkrs	Watts	Gauge	Length	Per Foot	Resistance	Current	Resistance	At End	At End	dB Loss	Ckt. Length
SPEAKER CIRCUIT DESCRIPTION		Circuit	Тар	per	[P]		[D] in	[Rw]	[RI=2D*Rw]	[I=P/Et]	[Rs=Et/I]	[Es=(Et*Rs)	[Pe=(Es)	[dB=Log10	[ML=(0.414*Rs)
	Amp#	Number	.5 Watt	Circuit			Feet					/(Rs+RI)]	^2/Rs]	(Pe/P)*10]	/(2*Rw)]
20 WEST TUNNEL AREA C 5:SIG4	Amp-1	<b>S1</b>	16	16	8. Watts	18ga	560	0.0078	8.702	0.114	612.500	69.019	7.777	12 db	16318 F
20 WEST PENTHOUSE AREA C 5:SIG5	Amp-1	S2	18	18	9. Watts	18ga	630	0.0078	9.790	0.129	544.444	68.763	8.685	15 db	14505 F
20 WEST FIRST FLOOR C 5:SIG6	Amp-1	S3	15	15	7.5 Watts	18ga	525	0.0078	8.159	0.107	653.333	69.137	7.316	11 db	17405 F
20 WEST FIRST FLOOR C 5:SIG7	Amp-1	\$4	14	14	7. Watts	18ga	490	0.0078	7.615	0.100	700.000	69.247	6.850	-,09 db	18649 F
20 WEST 1FL ADDRESSABLE SPKRS 5:SIG8	Amp-1	Š5	19	19	9.5 Watts	18ga	665	0.0078	10.334	0,136	515.789		9.130	17 db	13741 F

NET CHANNEL I Address	M1 DeviceType	PointType	ADDRESSESINUSE:196(78.4%) SPAREADDRESSES:54(21.6%) Location Description					H SE			
M1-1	РНОТО	SMOKE	DIAG 1FL NW PUBLIC CORR 5:M1-1	X			<b>4</b>	3 6	<u>,</u>	ON	
M1-2 M1-3	PHOTO ADRPUL	VSMOKE PULL	DIAG 1FL CORR AT 1B00C S SIDE 5:M1-2 DIAG 1FL CORR AT 1B00C S SIDE 5:M1-3	X	X			$\pm$		ON	
M1-4 M1-5	RIAM PHOTO	RELAY VSMOKE	DIAG 1FL C188 AUTO-OPERATOR SHUNT5:M1-4 DIAG 1FL CORR AT 1C92 5:M1-5	X		X	-	+	+	ON	
M1-6	IAM	WSO	DIAG 1FL CORR AT 1C94 5:M1-6		X	X			‡	ON	
M1-7 M1-8	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL 1C94 IT ROOM 5:M1-7 DIAG 1FL 1C92 ELECTRICAL RM 5:M1-8	X	X	X	X	$\pm$		ON	
M1-9 M1-10	РНОТО	VSMOKE	DIAG 1FL CORR AT 1C95 5:M1-9	X	X		X	+	$\perp$	ON	
M1-11				X	X		X	$\downarrow$	$\perp$	ON	
M1-12 M1-13	PHOTO ADRPUL	VSMOKE PULL	DIAG 1FL CORR AT 1C183B / FACP 5:M1-12  DIAG 1FL CORR AT 1C90B 5:M1-13	X		X	-	$\pm$	L	ON	
M1-14 M1-15	PHOTO IAM	VSMOKE WSO	DIAG 1FL CORR AT 1C90A 5:M1-14  DIAG 1FL CORR AT 1C90A 5:M1-15	X	_	X		_	Ŧ	ON	
M1-16	РНОТО	VSMOKE	DIAG 1FL 1C85 RESTROOM 5:M1-16					X	$\perp$	ON	
M1-17 M1-18	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL 1C91B SWITCHGEAR RM 5:M1-17  DIAG 1FL 1C57 CT SCAN 5:M1-18	X	X		1	X	+	ON	
M1-19 M1-20	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL CORR AT 1C55 RADIOLOG 5:M1-19 DIAG 1FL CORR AT 1C154A CT 2 5:M1-20	Х	X	X	-	X	$\vdash$	ON	
M1-21	РНОТО	VSMOKE	DIAG CORR AT FLEX DCON SHOWER 5:M1-21	Х	-	X		X		ON	٧
M1-22 M1-23	ADRPUL PHOTO	PULL VSMOKE	DIAG 1FL CORR AT STAIRS 1CS01 5:M1-22 DIAG 1FL CORR AT 1C57C 5:M1-23	X	X	₩	-	X X	+	ON	
M1-24	РНОТО	VSMOKE	DIAG 1FL AT 1C59A 5:M1-24				X	Χ		ON	
M1-25 M1-26	РНОТО	VSMOKE	DIAG 1FL 1C50 MRI EQUIPMENT RM 5:M1-26	X	X		X			ON	
M1-27 M1-28				X	X	X	X		_	ON	
M1-29				Х	1	X	X	X		ON	
M1-30 M1-31	РНОТО	VSMOKE	DIAG 1FL 1C152 ELECTRICAL RM 5:M1-30	Х	X	_	X		_	ON	
M1-32				X				X		ON	
M1-33 M1-34				^	X			X	-	ON	
M1-35 M1-36				X	X	X	H	X		ON	
M1-37				Х	4	X	Ħ	Х		ON	
M1-38 M1-39				X	X		H	X		ON	
M1-40 M1-41	ADRPUL PHOTO	PULL VSMOKE	DIAG 1FL CORR AT 1C83 5:M1-40  DIAG 1FL CORR AT 1C183A 5:M1-41	X			X	X		ON	
M1-42	РНОТО	VSMOKE	DIAG 1FL 1C183A STAFF LOUNGE 5:M1-42		X		X	Х	1	ON	٧
M1-43 M1-44	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL CORR AT 1C76A 5:M1-43  DIAG 1FL SUB-WAITING AT 1C81 5:M1-44	X	X	X	X	X		ON	
M1-45	РНОТО	VSMOKE	DIAG 1FL NW PUBLIC CORR 5:M1-45	X	4—	X	X	Х	1	ON	
M1-46 M1-47	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL RM 1C58A         5:M1-46           DIAG 1FL 1C76C RESTROOM         5:M1-47	X	X	X	-	X	+	ON	٧
M1-48 M1-49	РНОТО	VSMOKE	DIAG 1FL 1C59 X-RAY ROOM 5:M1-48	X			1	X X		ON	
M1-50	РНОТО	VSMOKE	DIAG 1FL CORR AT 1C70 / 1C71A 5:M1-50		X			X X	1	ON	
M1-51 M1-52	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL 1C70 IT ROOM 5:M1-51 DIAG 1FL N PUBLIC CORR 5:M1-52	X	X	Х	1	<i>X X</i>	-	ON	
M1-53 M1-54	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL 1C71A ULTRASOUND 1 5:M1-53 DIAG 1FL 1C72 RESTROOM 5:M1-54	Х	X	X	1	X X		ON	
M1-55	РНОТО	VSMOKE	DIAG 1FL 1C06 MEN'S RESTROOM 5:M1-55	Х	-	X		XX	1	ON	
M1-56 M1-57	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL 1C05 WOMEN'S RESTROOM 5:M1-56  DIAG 1FL CORR AT 1C02 WTG RM 5:M1-57	X			-	X X	-	ON	
M1-58	ADRPUL	PULL	DIAG 1FL CORR AT 1C02 WTG RM 5:M1-58		X	_	-	XX	_	ON	
M1-59 M1-60	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL 1C67B ULTRASOUND 2 5:M1-59 DIAG 1FL N PUBLIC CORR 5:M1-60	X	X		-	<i>X X</i>		ON	
M1-61 M1-62	PHOTO ADRPUL	VSMOKE PULL	DIAG 1FL N PUBLIC CORR 5:M1-61  DIAG 1FL AT 1C01B REV DOOR 5:M1-62	X	_	X		X X		ON	
M1-63	РНОТО	VSMOKE	DIAG 1FL NE PUBLIC CORR 5:M1-63	Х	_	+	-	XX	7	ON	
M1-64 M1-65	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL NE PUBLIC CORR 5:M1-64  DIAG 1FL WAITING C102 E 5:M1-65	X			H	+	X	ON	
M1-66 M1-67	РНОТО	VSMOKE	DIAG 1FL WAITING C102 W 5:M1-66	Y	X			_	X	ON	
M1-68	РНОТО	VSMOKE	DIAG 1FL 1C11 CONSULTATION 2 5:M1-68			X		#	X	ON	
M1-69 M1-70	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL CORR AT 1C60B 5:M1-69 DIAG 1FL 1C60B ULTRASOUND 5:M1-70	X	4	X		+	X	ON	
M1-71 M1-72	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL CORR AT 1C67A 5:M1-71  DIAG 1FL 1C66 RESTROOM 5:M1-72	Х	X	X	X	_	X	ON	
M1-73	РНОТО	VSMOKE	DIAG 1FL 1C65 ULTRASOUNG 3 5:M1-73	Х	₩		X	$\pm$	X	ON	
M1-74 M1-75	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL CORR AT 1C64 5:M1-74  DIAG 1FL RM 1C64 5:M1-75	_ X	X		X	+	X	ON	
M1-76 M1-77	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL HALL BY 1C11A 5:M1-76  DIAG 1FL HALL BY 1C13A 5:M1-77	v		X			X	ON	
M1-78	PHOTO	VSMOKE	DIAG 1FL 1C13 CONSULTATION 4 5:M1-78	~_^^	X	Ŷ		<b>→</b>	Ŷ	<b>~</b>	<b>√</b>
M1-79 M1-80	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL 1C12 CONSULTATION 3 5:M1-79  DIAG 1FL 1C09 AT 1C15A 5:M1-80	X	X	X	-	X	X	ON	
M1-81	РНОТО	VSMOKE	DIAG 1FL 1C14 CONSULTATION 5 5:M1-81	Х			1	X	X	ON	
M1-82 M1-83	PHOTO PHOTO	VSMOKE VSMOKE	DIAG 1FL 1C15 CONSULTATION 6 5:M1-82  DIAG 1FL COR AT 1C42 5:M1-83	X	X	-	$\vdash$	X	X	ON	٧
M1-84 M1-85	PHOTO ADRPUL	VSMOKE PULL	DIAG 1FL 1C60 RAD. READING RM 5:M1-84  DIAG 1FL CORR AT 1C42 5:M1-85	X	_	X	-	X X	X	ON	
M1-86	РНОТО	VSMOKE	DIAG 1FL CORR AT 1C00F N SIDE 5:M1-86		_	X		X	X	ON	
M1-87 M1-88	РНОТО	VSMOKE	DIAG 1FL DIAGNSTIC ENTRY C100 5:M1-87			X	X		X	ON	٧
M1-89 M1-90	РНОТО	VSMOKE	DIAG 1FL CORR AT 1C00F S SIDE 5:M1-89	X	X		X		X	ON	
M1-91	РНОТО	VSMOKE	DIAG 1FL 1C135 INJECTION RM 5:M1-91	X	Χ		X	Χ	X	ON	
M1-92 M1-93	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL CORR AT 1C36 5:M1-92  DIAG 1FL WORK C136 5:M1-93	$\sim \frac{1}{\chi}$		X	X X	X	X	ON	Ý
M1-94 M1-95	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL READ 1C101 5:M1-94  DIAG 1FL 1C32 NURSE STATION 5:M1-95	~~\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	_	_	X	_	X	ON ON	_
M1-96	РНОТО	VSMOKE	DIAG 1FL CORR AT 1C33 5:M1-96			-		Х	<i>X</i>	ON	
M1-97 M1-98	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL 1C33 INFUSION 2       5:M1-97         DIAG 1FL 1C34 INFUSION 1       5:M1-98	X	X		H	X	-	ON	
M1-99 M1-100	РНОТО	VSMOKE	DIAG 1FL CORR 1D00 @ INFUSN #4 5:M1-99	X	X	X		X	<i>X X X</i>	ON	
M1-101		_		X	4	X		Х	<i>x</i>	ON	٧
M1-102 M1-103	RIAM RIAM	RELAY RELAY	1C152 AHU C-1 SUPPLY DMPR RELAY5:M1-102 1C152 AHU C-1 RETURN DMPR RELAY5:M1-103	X	1	X	-		<i>X X X</i>	ON	
M1-104 M1-105	PHOTO ADRPUL	VSMOKE PULL	DIAG 1FL WAITING RM AT 1C28A 5:M1-104 DIAG 1FL WAITING RM AT 1C17 5:M1-105	X			X		<i>x</i>	ON	
M1-106	PHOTO	VSMOKE	DIAG 1FL RM 1C121 5:M1-106		X		X	Х	<i>x</i>	ON	٧
M1-107 M1-108				X	X	X	X	X		ON	
M1-109	PHOTO	VSMOKE	DIAG 1FL LAB DRAW RM 1C20 5:M1-109	Х	4	X	X	Х	<i>x</i>	ON	
M1-110 M1-111	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL RESTROOM 1C21         5:M1-110           DIAG 1FL UPS ROOM 1C202B         5:M1-111	X		X		X	( X ( X	ON	٧
M1-112 M1-113	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL RM 1C117 5:M1-112  DIAG 1FL 1C17 LAB RECEPTIONIS 5:M1-113	X				X X	_	ON	
M1-114	РНОТО	VSMOKE	DIAG 1FL 1C201 SPCL PRCDR LAB 5:M1-114		X	-		XX	<i>x</i>	ON	٧
M1-115 M1-116	RPHOTO PHOTO	VSMOKE VSMOKE	DIAG 1FL 1C207 SPCL PRCDR LAB 5:M1-115 DIAG 1FL 1C202 SPCL PRCDR LAB 5:M1-116	X	X	X		<i>X X</i>		ON	
M1-117	РНОТО	VSMOKE	DIAG 1FL WON DOOR 1C00A 5:M1-117	X	-	X		X X	X	ON	
M1-118 M1-119	RPHOTO RPHOTO	VSMOKE VSMOKE	DIAG 1FL 1C202 SPCL PROC BED4 5:M1-118  DIAG 1FL 1C202 SPCL PROC BED3 5:M1-119	X	-	X	-	X X X X		ON	
M1-120	RPHOTO	VSMOKE	DIAG 1FL 1C202 SPCL PROC BED2 5:M1-120				X	X X	<i>x</i>	ON	
M1-121 M1-122	RPHOTO RPHOTO	VSMOKE LSDUCT	DIAG 1FL 1C202 SPCL PROC BED1 5:M1-121  DIAG 2FL 2D01 MECH RM C-1 RET 5:M1-122	X	X	+	X	X X X X	<i>x</i>	ON	٧
IVI 1-122			DIA 0 451 40005 0011 5D 11711 17V 5-144 400	T	l v	1	ľ	XX	′   <b>y</b>	ON	ı –
M1-123 M1-124	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL 1C205 SOILED UTILITY 5:M1-123 DIAG 2FL 2D01 MECH RM AT DOOR 5:M1-124	X	X	-	-	$X \mid X$		ON	

NOTE: THE LABELS SHOWN ABOVE WILL BE USED FOR PROGRAMMING PURPOSES.
THE LABELS ARE BASED UPON INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS.
ANY CHANGES TO THESE LABELS MUST BE NOTED ON THE SUBMITTAL REVIEW, PRIOR TO PROGRAMMING.
POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

Address	PUOTO	VOMOVE	Location Description	1		_	_		_	7 8
M1-126 M1-127	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 2FL 2D01 MECH RM 5:M1-126  DIAG 2FL 2D01 MECH RM 5:M1-127	X	_	+	_	΄ <i>Χ</i>	_	X
M1-128	РНОТО	VSMOKE	DIAG 1FL 1C202 SPCL PROC LAB 5:M1-128			İ	L	İ		Х
M1-129 M1-130	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 1FL 1C204 STAFF BREAKRM 5:M1-129  DIAG 1FL 1C203 CONTROL ROOM 5:M1-130	X	X	_	igdash	$\perp$	+-	X
M1-131	PHOTO	VSMOKE	DIAG 1FL 1C203 CONTROL ROOM 5:M1-130  DIAG 1FL 1C203A IT ROOM 5:M1-131	X	+		H	+	+	X
M1-132	РНОТО	VSMOKE	DIAG 2FL 2D01 MECH RM AT DOOR 5:M1-132			Х	+	$ \downarrow $		Х
M1-133 M1-134	ADRPUL	PULL	DIAG TUNNEL AREA 5:M1-133	X	-	X	_	$\perp$	+	X
M1-135				X	_	X	_	+	+	X
M1-136	РНОТО	VSMOKE	DIAG TUNNEL AREA 5:M1-136				X			х
M1-137	РНОТО	VSMOKE	DIAG TUNNEL AREA 5:M1-137	X	+-	Ļ	X	-		X
M1-138 M1-139	РНОТО РНОТО	VSMOKE VSMOKE	DIAG TUNNEL AREA 5:M1-138 DIAG TUNNEL AREA 5:M1-139	X	X	4	X	_	+-	X
M1-140	РНОТО	VSMOKE	DIAG TUNNEL AREA 5:M1-140	<del> ^</del>		X	4-		T	X
M1-141	РНОТО	VSMOKE	DIAG TUNNEL AREA 5:M1-141	X		Х				Х
M1-142 M1-143	ADRPUL RIAM	PULL RELAY	DIAG TUNNEL AREA 5:M1-142 DIAG DOOR & SECURITY RELAY 5:M1-143	X	+-	X	X	+-	+	X
M1-144	RPHOTO	VSMOKE	DIAG 1FL SPCL PRCDR LAB 1C201 5:M1-144	+	_			X	,	X
M1-145	RPHOTO	VSMOKE	DIAG 1FL SPCL PRCDR LAB 1C201 5:M1-145	X		İ	İ	Х		Х
M1-146	РНОТО	VSMOKE	DIAG 1FL IT ROOM U/F 1C203A 5:M1-146		X	_	lacksquare	X	_	X
M1-147 M1-148	IAM	WSO	DIAG 1FL CORR AT 1C90A 5:M1-147	X	X	X	+	X	_	X
M1-149	RPHOTO	VSMOKE	DIAG 1FL CATH LAB 1C221 RM 5 5:M1-149	X	-	X	4-	X	-	X
M1-150	RPHOTO	VSMOKE	DIAG 1FL CATH LAB 1C223 RM 6 5:M1-150		+-	X	+-	X	+	Х
M1-151 M1-152				X	X	X	+	X	+	X
M1-152 M1-153	РНОТО	VSMOKE	DIAG 1FL CORR AT 02-1B00W WEST 5:M1-153	+	+	+	_	' X ' X	_	X
M1-154	РНОТО	VSMOKE	DIAG 1FL CORR AT 1C202 SPL PR 5:M1-154		X	İ	X	X		Х
M1-155	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C147 MRI 5:M1-155	X	X	_	4-	X	_	X
M1-156 M1-157	ADRPUL PHOTO	PULL VSMOKE	DIAG 1FL AT EXIT 1C00B 5:M1-156  DIAG 1FL CORR AT 1C200A 5:M1-157	X	+	X	4-	΄ <i>Χ</i>	_	X
M1-158						_		' X		X
M1-159				X	X	X	X	<b>X</b>	-	Х
M1-160 M1-161	RPHOTO	LSDUCT	DIAG 1FL WTG RM C-1 SUPPLY 5:M1-161	X	+	+	+	+	X	X
M1-161	RPHOTO	LSDUCT	DIAG 1FL 1C34 AHU C-1 SUPPLY 5:M1-162	<del> </del>	X	+	+	+	X	X
M1-163	RPHOTO	LSDUCT	DIAG 1FL AT 1C34 AHU C-1 SUP 5:M1-163	X	X		T	$\perp$	X	х
M1-164	-			X	+	X	-	+	X	X
M1-165 M1-166	РНОТО	VSMOKE	DIAG 1FL NE PULBIC CORR CEI 5:M1-166	<del>x</del>	4	X	4	+	X	X
M1-167	РНОТО	VSMOKE	DIAG 1FL 1C50 EQUIP RM U/F 5:M1-167	X	+	X	4-	<u> </u>	X	Х
M1-168	РНОТО	VSMOKE	DIAG 1FL 1C50 EQUIP RM U/F 5:M1-168	$\perp$	$\perp$	igg igg [	X	-	X	X
M1-169 M1-170	РНОТО	VSMOKE	DIAG 1FL WAITING RM CTR 5:M1-170	X	X	+	X	+	X	X
M1-170 M1-171	РНОТО	VSMOKE VSMOKE	DIAG 1FL WAITING RM CTR 5:M1-170  DIAG 1FL WAITING RM S 5:M1-171	X	X	4-	X	-	X	X
M1-172						Х	X		X	Х
M1-173 M1-174	-			Х		X	X	_	X	X
M1-174 M1-175	IAM	WATER	DIAG FLOW 1FL 02-1B078 5:M1-175	  x		_	X	-	X	X
M1-176	IAM	so	DIAG TS 1FL 02-1B078 AFTR BKFLW5:M1-176	<del> ^</del>	Ť		<u> </u>	X	+	X
M1-177	IAM	so	DIAG TS 1FL 02-1B078 BEFR BKFLW5:M1-177	X	+-	L	L	X	_	Х
M1-178	ADRPUL	PULL	DIAG 1FL STAIR 2C-S01 5:M1-178		X	_	Ļ	X	-	X
M1-179 M1-180				X	X	X	+	X	-	X
M1-181				X		X	+		X	X
M1-182					-	X	_	_	X	Х
M1-183	BUOTO	CMOKE	DIAC 451 HOT I AD 4027 5.MI 404	X	X	X	4		X X	X
M1-184 M1-185	РНОТО	SMOKE	DIAG 1FL HOT LAB 1C37 5:M1-184	X	+	+	4-	' X		X
M1-186					X		X	X	X	Х
M1-187				X	X	4	_	X		Х
M1-188 M1-189	РНОТО	VSMOKE	DIAG 1FL CATH LAB NURSE STN 5:M1-189	X	+	4-	4-	X	<i>X X X</i>	X
M1-190	PHOTO	VSMOKE	DIAG 1FL CATH LAB AT EXAM 1 5:M1-190	+^	+-	+	+	+-	' X	X
M1-191	РНОТО	VSMOKE	DIAG 1FL CATH LAB AT 1C226 5:M1-191	X	X	X	X	X	X	Х
M1-192				<u> </u>	<u></u>	$\downarrow$	Ļ	1	<u> </u>	XX
M1-193 M1-194				X	X	_	H	+	+	X X
M1-195	РНОТО	VSMOKE	DIAG 1FL CATH CORR AT 1C220 5:M1-195	X	X	_	+	+	+	XX
M1-196	РНОТО	VSMOKE	DIAG 1FL CORR AT EXIT 1C00B 5:M1-196		L	X	+	$\perp$		X X
M1-197 M1-198				X		X		+	+	X X
M1-199				X	<b>X</b>	+-	+-	+	+	XX
M1-200	RIAM	RELAY	DIAG JC ALARM RELAY 5:M1-200				X			x x
M1-201	RIAM	RELAY	DIAG JC TROUBLE RELAY 5:M1-201	X	+-		X		<u>                                     </u>	XX
M1-202 M1-203	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 2FL CVC HALL 2C200 EAST 5:M1-202 DIAG 2FL CVC HALL 2C200 E CTR 5:M1-203	   v	X		X	-	+-	X X
M1-204	РНОТО	VSMOKE	DIAG 2FL CVC HALL 2C200 & CTR 5:M1-203	<del> </del> ^	<del> ^</del>	+-	X	-	+	X X
M1-205	РНОТО	VSMOKE	DIAG 2FL AT NW STAIR 2CS01 5:M1-205	X	+	X	X	,	$\Box$	x x
M1-206	ADRPUL	PULL	DIAG 2FL AT NW STAIR 2CS01 5:M1-206	1	+-	+-	X	_	$\bot$	XX
M1-207 M1-208	IAM	so wso	DIAG 2FL CVC STAIRWELL 2CS01 5:M1-207 DIAG 1FL CVC STAIRWELL 1CS01 5:M1-208	X	X	<b>X</b>	<b>X</b>	X	+	X X
M1-209	PHOTO	VSMOKE	DIAG 2FL CVC CORR AT 240-36 5:M1-209	X	+	+	+	X	_	X X
M1-210	РНОТО	VSMOKE	DIAG 2FL CVC CORR AT 240-43 5:M1-210		X	+	Į	Х		x x
M1-211	PHOTO	VSMOKE	DIAG 2FL CVC CORR AT 240-50 5:M1-211	X	X	-	+	X	+	X X
M1-212 M1-213	РНОТО РНОТО	VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-56 5:M1-212  DIAG 2FL CVC MECH RM 2C201 5:M1-213	X	+	X	_	X	,	X X
	РНОТО	VSMOKE	DIAG 2FL CVC MECH RM 2C201 5:M1-214		X	X		X		X X
M1-214		PULL	DIAG 2FL CVC AT EXIT 2D00B 5:M1-215	X	X	X		X		XX
M1-215	ADRPUL	-		1	4	+	4—	X X		X X
	ADRPUL PHOTO	VSMOKE	DIAG 2FL CVC ELEC RM 2C203 5:M1-217	X		1	_	' X	_	XX
M1-215 M1-216			DIAG 2FL CVC ELEC RM 2C203 5:M1-217  DIAG 2FL CVC CORR AT 240-12 5:M1-218		X	_	4-	$\rightarrow$	, I 🗂	XX
M1-215 M1-216 M1-217 M1-218 M1-219	РНОТО РНОТО РНОТО	VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219		-		X	X		
M1-215 M1-216 M1-217 M1-218 M1-219 M1-220	РНОТО РНОТО РНОТО РНОТО	VSMOKE VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219  DIAG 2FL CVC BREAKROOM 240-43 5:M1-220	X	X	X	X	X		X X
M1-215 M1-216 M1-217 M1-218 M1-219	РНОТО РНОТО РНОТО	VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219		X	X	X		7	X X X X X X
M1-215 M1-216 M1-217 M1-218 M1-219 M1-220 M1-221 M1-222 M1-223	РНОТО РНОТО РНОТО РНОТО РНОТО РНОТО РНОТО РНОТО	VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219  DIAG 2FL CVC BREAKROOM 240-43 5:M1-220  DIAG 2FL CVC CORR AT 240-30 5:M1-221  DIAG 2FL CVC AT EQUIP RM 5:M1-222  DIAG 2FL CVC AT 2C203 ELEC RM 5:M1-223	X	X	X	X	X		X X X X
M1-215 M1-216 M1-217 M1-218 M1-219 M1-220 M1-221 M1-222 M1-223 M1-224	PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO ADRPUL	VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE PULL	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219  DIAG 2FL CVC BREAKROOM 240-43 5:M1-220  DIAG 2FL CVC CORR AT 240-30 5:M1-221  DIAG 2FL CVC AT EQUIP RM 5:M1-222  DIAG 2FL CVC AT 2C203 ELEC RM 5:M1-223  DIAG 2FL CVC WAITING RM 5:M1-224	X	X	X	X	X X X	<i>X</i>	X X X X X X
M1-215 M1-216 M1-217 M1-218 M1-219 M1-220 M1-221 M1-222 M1-223	РНОТО РНОТО РНОТО РНОТО РНОТО РНОТО РНОТО РНОТО	VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219  DIAG 2FL CVC BREAKROOM 240-43 5:M1-220  DIAG 2FL CVC CORR AT 240-30 5:M1-221  DIAG 2FL CVC AT EQUIP RM 5:M1-222  DIAG 2FL CVC AT 2C203 ELEC RM 5:M1-223	X	X	XXXX	X	X X X	X X	X X X X X X X X
M1-215 M1-216 M1-217 M1-218 M1-219 M1-220 M1-221 M1-222 M1-223 M1-224 M1-225	PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO ADRPUL PHOTO	VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219  DIAG 2FL CVC BREAKROOM 240-43 5:M1-220  DIAG 2FL CVC CORR AT 240-30 5:M1-221  DIAG 2FL CVC AT EQUIP RM 5:M1-222  DIAG 2FL CVC AT 2C203 ELEC RM 5:M1-223  DIAG 2FL CVC WAITING RM 5:M1-224  DIAG 2FL CVC WAITING RM 5:M1-225	X X X	X	XXXX	X	X X X	X X X X	X X X X X X X X X X X X X X X X X X X
M1-215 M1-216 M1-217 M1-218 M1-219 M1-220 M1-221 M1-222 M1-223 M1-224 M1-225 M1-226 M1-227 M1-228	PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO ADRPUL PHOTO PHOTO PHOTO PHOTO PHOTO	VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219  DIAG 2FL CVC BREAKROOM 240-43 5:M1-220  DIAG 2FL CVC CORR AT 240-30 5:M1-221  DIAG 2FL CVC AT EQUIP RM 5:M1-222  DIAG 2FL CVC AT 2C203 ELEC RM 5:M1-223  DIAG 2FL CVC WAITING RM 5:M1-224  DIAG 2FL CVC WAITING RM 5:M1-225  DIAG 2FL CVC CORR AT 240-23 5:M1-226  DIAG 2FL CVC WAITING RM 5:M1-227  DIAG 2FL CVC POD 2C215 5:M1-228	X X X	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXXXX	X X X	X X X X	X X X X X X X X X X X X X X X X X X X
M1-215 M1-216 M1-217 M1-218 M1-219 M1-220 M1-221 M1-222 M1-223 M1-224 M1-225 M1-226 M1-227 M1-228 M1-229	PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO ADRPUL PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO	VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219  DIAG 2FL CVC BREAKROOM 240-43 5:M1-220  DIAG 2FL CVC CORR AT 240-30 5:M1-221  DIAG 2FL CVC AT EQUIP RM 5:M1-222  DIAG 2FL CVC AT 2C203 ELEC RM 5:M1-223  DIAG 2FL CVC WAITING RM 5:M1-224  DIAG 2FL CVC WAITING RM 5:M1-225  DIAG 2FL CVC CORR AT 240-23 5:M1-226  DIAG 2FL CVC WAITING RM 5:M1-227  DIAG 2FL CVC POD 2C215 5:M1-228  DIAG 2FL CVC POD 2C215 5:M1-229	X X X	X X X X	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXXXX	X X X	X X X X X X X X	X X X X X X X X X X X X X X X X X X X
M1-215 M1-216 M1-217 M1-218 M1-219 M1-220 M1-221 M1-222 M1-223 M1-224 M1-225 M1-226 M1-227 M1-228	PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO ADRPUL PHOTO PHOTO PHOTO PHOTO PHOTO	VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219  DIAG 2FL CVC BREAKROOM 240-43 5:M1-220  DIAG 2FL CVC CORR AT 240-30 5:M1-221  DIAG 2FL CVC AT EQUIP RM 5:M1-222  DIAG 2FL CVC AT 2C203 ELEC RM 5:M1-223  DIAG 2FL CVC WAITING RM 5:M1-224  DIAG 2FL CVC WAITING RM 5:M1-225  DIAG 2FL CVC CORR AT 240-23 5:M1-226  DIAG 2FL CVC WAITING RM 5:M1-227  DIAG 2FL CVC POD 2C215 5:M1-228	X X X	X X X X	X X X X	XXXXX	X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X
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M1-215 M1-216 M1-217 M1-218 M1-219 M1-220 M1-221 M1-222 M1-223 M1-224 M1-225 M1-226 M1-227 M1-228 M1-229 M1-230 M1-231 M1-232 M1-233 M1-234 M1-235 M1-235 M1-235 M1-236 M1-237 M1-238 M1-237 M1-238 M1-239 M1-240 M1-241 M1-242 M1-243 M1-244	PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO ADRPUL PHOTO PHOTO PHOTO PHOTO ADRPUL PHOTO PHOTO PHOTO ADRPUL PHOTO PHOTO PHOTO RPHOTO RPHOTO RPHOTO IAM IAM IAM PHOTO PHOTO PHOTO PHOTO RPHOTO	VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE LSDUCT LSDUCT VSMOKE LSDUCT VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219  DIAG 2FL CVC BREAKROOM 240-43 5:M1-220  DIAG 2FL CVC CORR AT 240-30 5:M1-221  DIAG 2FL CVC AT EQUIP RM 5:M1-222  DIAG 2FL CVC AT EQUIP RM 5:M1-223  DIAG 2FL CVC WAITING RM 5:M1-224  DIAG 2FL CVC WAITING RM 5:M1-225  DIAG 2FL CVC WAITING RM 5:M1-226  DIAG 2FL CVC WAITING RM 5:M1-227  DIAG 2FL CVC WAITING RM 5:M1-227  DIAG 2FL CVC POD 2C215 5:M1-228  DIAG 2FL CVC CORR AT 240-38 5:M1-230  DIAG 2FL CVC CORR AT 240-38 5:M1-230  DIAG 2FL CVC CORR AT 240-38 5:M1-231  DIAG 2FL CVC 2C201 MECH RM 5:M1-231  DIAG 2FL CVC 2C201 MECH RM 5:M1-232  DIAG 2FL CVC 2C201 MECH RM 5:M1-233  DIAG 2FL CVC 2C201 MECH RM 5:M1-235  DIAG 2FL CVC 2C201 MECH RM 5:M1-235  DIAG 1FL CORR AT 1C54A CT 2 5:M1-236  DIAG 1FL CORR AT 1C54A CT 2 5:M1-237  DIAG 1FL CATH LAB 1C227 CTL 5:M1-239  DIAG 1FL CATH LAB 1C229 PROC 5:M1-241  DIAG 1FL CATH LAB 1C223 RM 1 5:M1-242  DIAG 1FL CATH LAB 1C233 RM 2 5:M1-243  DIAG 1FL CATH LAB 1C233 RM 2 5:M1-243  DIAG 1FL CATH LAB 1C235 RM 3 5:M1-244	X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X
M1-215 M1-216 M1-217 M1-218 M1-219 M1-220 M1-221 M1-222 M1-223 M1-224 M1-225 M1-226 M1-227 M1-228 M1-229 M1-230 M1-231 M1-232 M1-233 M1-234 M1-235 M1-235 M1-236 M1-237 M1-238 M1-237 M1-238 M1-239 M1-240 M1-241 M1-242 M1-243	PHOTO           PHOTO           PHOTO           PHOTO           PHOTO           PHOTO           PHOTO           PHOTO           PHOTO           PHOTO           PHOTO           PHOTO           RPHOTO           RPHOTO           RPHOTO           IAM           IAM           PHOTO           PHOTO           PHOTO           PHOTO           PHOTO           PHOTO           RPHOTO           RPHOTO           RPHOTO           RPHOTO           RPHOTO	VSMOKE LSDUCT LSDUCT VSMOKE LSDUCT VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC BREAKROOM 240-43 5:M1-220  DIAG 2FL CVC BREAKROOM 240-43 5:M1-221  DIAG 2FL CVC CORR AT 240-30 5:M1-221  DIAG 2FL CVC AT EQUIP RM 5:M1-222  DIAG 2FL CVC AT 2C203 ELEC RM 5:M1-223  DIAG 2FL CVC WAITING RM 5:M1-225  DIAG 2FL CVC WAITING RM 5:M1-225  DIAG 2FL CVC WAITING RM 5:M1-226  DIAG 2FL CVC WAITING RM 5:M1-227  DIAG 2FL CVC WAITING RM 5:M1-227  DIAG 2FL CVC WAITING RM 5:M1-227  DIAG 2FL CVC WAITING RM 5:M1-228  DIAG 2FL CVC POD 2C215 5:M1-228  DIAG 2FL CVC POD 2C215 5:M1-229  DIAG 2FL CVC CORR AT 240-38 5:M1-230  DIAG 2FL CVC 2C201 MECH RM 5:M1-231  DIAG 2FL CVC 2C201 AHU C-03 SUPPL 5:M1-232  DIAG 2FL CVC 2C201 AHU C-03 SUPPL 5:M1-233  DIAG 2FL CVC 2C201 MECH RM 5:M1-234  DIAG 2FL CVC 2C201 MECH RM 5:M1-235  DIAG 1FL CORR AT 1C54A CT 2 5:M1-235  DIAG 1FL CORR AT 1C54A CT 2 5:M1-237  DIAG 1FL CATH LAB 1C227 CTL 5:M1-239  DIAG 1FL CATH LAB 1C229 PROC 5:M1-240  DIAG 1FL CATH LAB 1C229 PROC 5:M1-241  DIAG 1FL CATH LAB 1C223 RM 1 5:M1-242  DIAG 1FL CATH LAB 1C223 RM 2 5:M1-243	X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X	X
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M1-215 M1-216 M1-217 M1-218 M1-219 M1-220 M1-221 M1-222 M1-223 M1-224 M1-225 M1-226 M1-227 M1-228 M1-229 M1-230 M1-231 M1-232 M1-233 M1-234 M1-235 M1-235 M1-236 M1-237 M1-238 M1-237 M1-238 M1-237 M1-240 M1-241 M1-242 M1-243 M1-244 M1-245 M1-245	PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO ADRPUL PHOTO PHOTO PHOTO ADRPUL PHOTO PHOTO RPHOTO RPHOTO IAM IAM PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO PHOTO RPHOTO RPHOTO RPHOTO RPHOTO RPHOTO RPHOTO RPHOTO RPHOTO RPHOTO	VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE LSDUCT LSDUCT VSMOKE LSDUCT VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218  DIAG 2FL CVC CORR AT 240-20 5:M1-219  DIAG 2FL CVC BREAKROOM 240-43 5:M1-220  DIAG 2FL CVC CORR AT 240-30 5:M1-221  DIAG 2FL CVC AT EQUIP RM 5:M1-222  DIAG 2FL CVC AT EQUIP RM 5:M1-223  DIAG 2FL CVC WAITING RM 5:M1-223  DIAG 2FL CVC WAITING RM 5:M1-225  DIAG 2FL CVC WAITING RM 5:M1-225  DIAG 2FL CVC WAITING RM 5:M1-227  DIAG 2FL CVC WAITING RM 5:M1-227  DIAG 2FL CVC WAITING RM 5:M1-227  DIAG 2FL CVC CORR AT 240-23 5:M1-228  DIAG 2FL CVC POD 2C215 5:M1-228  DIAG 2FL CVC POD 2C215 5:M1-229  DIAG 2FL CVC CORR AT 240-38 5:M1-230  DIAG 2FL CVC CORR AT 240-38 5:M1-231  DIAG 2FL CVC 2C201 MECH RM 5:M1-231  DIAG 2FL CVC 2C201 AHU C-03 SUPPL 5:M1-232  DIAG 2FL CVC 2C201 MECH RM 5:M1-233  DIAG 2FL CVC 2C201 MECH RM 5:M1-235  DIAG 1FL CORR AT 1C54A CT 2 5:M1-235  DIAG 1FL CORR AT 1C54A CT 2 5:M1-237  DIAG 1FL CATH LAB 1C227 CTL 5:M1-239  DIAG 1FL CATH LAB 1C229 PROC 5:M1-240  DIAG 1FL CATH LAB 1C223 RM 1 5:M1-242  DIAG 1FL CATH LAB 1C233 RM 2 5:M1-244  DIAG 1FL CATH LAB 1C237 RM 4 5:M1-245  DIAG 1FL CATH LAB 1C237 RM 4 5:M1-245  DIAG 1FL CATH LAB 1C237 RM 4 5:M1-245  DIAG 1FL CATH LAB AT 1C237 5:M1-245  DIAG 1FL CATH LAB AT 1C237 5:M1-245  DIAG 1FL CATH LAB AT 1C237 5:M1-245	X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X

NOTE: THE LABELS SHOWN ABOVE WILL BE USED FOR PROGRAMMING PURPOSES. THE LABELS ARE BASED UPON INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS. ANY CHANGES TO THESE LABELS MUST BE NOTED ON THE SUBMITTAL REVIEW, PRIOR TO PROGRAMMING. POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.





CT MEDICINE NUCLEAR

ISSUE LOG:  MARK D  1 8-2	OG: DATE 8-22-23	CAD	美병	ISSUE LOG:  MARK DATE CAD CHK DESCRIPTION  1 8-22-23 TLE CF ADDED CALCULATIONS GENERATED FROM PANEL EXPORT

SSUE DATE: 7/17/23 PROJECT #: 332:650400519 JOHNSON CONTROLS © 2023 FIRE ALARM SYSTEM

**CALCULATIONS AND** 

**SCHEDULES** 

FA-601

Circuit 5:10-1 5:10-2 5:10-3  ES POWER SUPP IDNac Address 5:10-1-3  Branch 1 1 1 1 ES POWER SUPP IDNac Address 5:10-2-3 5:10-2-4 5:10-2-5 5:10-2-6 5:10-2-7 5:10-2-8 5:10-2-9	VO VO 5:10-1  Starting Voltage: Min. Device Voltage: Allowable % Drop:  Device # 5:10-1-1 5:10-1-2 5:10-1-3	Description  CIRCUIT 5:10-1  P:  49VO-A  49VO-A  29vdc  23.vdc  20.7%  From  PANEL  5:10-1-1  5:10-1-2	DAPPLW APPLW APPLW Distance (Feet)		DIAG PH AREA DIAG PH AREA DIAG PH AREA Notification SLC	5:10-1-2 5:10-1-3 5:10-1-4	3 4	Spare Current 87% 60% 56%	Spare   VoltageDrop   94%   71%   70%   SW   1	VITCH SETTINGS ON ON ON
5:10-1 5:10-2 5:10-3  ES POWER SUPP IDNac Address 5:10-1-1 5:10-1-2 5:10-1-3  Branch 1 1 1  ES POWER SUPP IDNac Address 5:10-2-1 5:10-2-1 5:10-2-2 5:10-2-3 5:10-2-4 5:10-2-5 5:10-2-8 5:10-2-9	DIAG SE AREA DIAG SOUTH AREA  PLY 2 - IDNAC CARD 2 - S Device Type VO VO VO 5:10-1  Starting Voltage: Min. Device Voltage: Allowable % Drop:  Device # 5:10-1-1 5:10-1-2 5:10-1-3	CIRCUIT 5:10-1	APPLW APPLW APPLW Distance (Feet)	Current   0.396A   1.188A   1.320A	1.26% 6.04% 6.29%  CO DIAG PH AREA DIAG PH AREA Notification SLC I	Load* 3 9 10  Custom Label (M 5:10-1-3 5:10-1-4	Length   200   380   360	Current 87% 60%	VoltageDrop  94%  71%  70%  SW  1  X   X	ON
### STORY SUPPOSE SUPPOSE	DIAG SE AREA DIAG SOUTH AREA  PLY 2 - IDNAC CARD 2 - S Device Type VO VO VO 5:10-1  Starting Voltage: Min. Device Voltage: Allowable % Drop:  Device # 5:10-1-1 5:10-1-2 5:10-1-3	CIRCUIT 5:10-1	APPLW APPLW APPLW Distance (Feet)	0.396A 1.188A 1.320A  Setting 110cd 110cd 110cd Primary Wire Gauge	1.26% 6.04% 6.29%  CO DIAG PH AREA DIAG PH AREA Notification SLC I	3 9 10 Custom Label (M 5:10-1-3 5:10-1-4	200 380 360 Max 40 Characters) 2 3	87% 60%	94% 71% 70% SW 1 X	ON
### SPOWER SUPP IDNac Address	DIAG SOUTH AREA  PLY 2 - IDNAC CARD 2 -  Device Type  VO  VO  5:10-1  Starting Voltage: Min. Device Voltage: Allowable % Drop:  Device #  5:10-1-1  5:10-1-2  5:10-1-3	29vdc 23.vdc 20.7% From PANEL 5:10-1-1	APPLW APPLW APPLW Distance (Feet)	Setting 110cd 110cd 110cd Primary Wire Gauge	DIAG PH AREA DIAG PH AREA DIAG PH AREA Notification SLC	10 Custom Label (M 5:10-1-2 5:10-1-3	360 Max 40 Characters) 2 3		70% SW 1 X X	ON
Branch 1 1 1 S POWER SUPP IDNac Address 5:10-2-1 5:10-2-3 5:10-2-5 5:10-2-8 5:10-2-9	Device Type VO VO VO 5:10-1  Starting Voltage: Min. Device Voltage: Allowable % Drop:  Device # 5:10-1-1 5:10-1-2 5:10-1-3	29vdc 23.vdc 20.7% From PANEL 5:10-1-1	APPLW APPLW APPLW Distance (Feet)	110cd 110cd 110cd Primary Wire Gauge	DIAG PH AREA DIAG PH AREA DIAG PH AREA Notification SLC	5:10-1-2 5:10-1-3 5:10-1-4	2 3 4		1   X     X	ON
5:10-1-1 5:10-1-2 5:10-1-3 Branch 1 1 1 1 S POWER SUPP IDNac Address 5:10-2-1 5:10-2-2 5:10-2-3 5:10-2-4 5:10-2-5 5:10-2-6 5:10-2-7 5:10-2-8 5:10-2-9	VO VO VO 5:10-1  Starting Voltage: Min. Device Voltage: Allowable % Drop:  Device # 5:10-1-1 5:10-1-2 5:10-1-3	29vdc 23.vdc 20.7% From PANEL 5:10-1-1	APPLW APPLW APPLW Distance (Feet)	110cd 110cd 110cd Primary Wire Gauge	DIAG PH AREA DIAG PH AREA DIAG PH AREA Notification SLC	5:10-1-2 5:10-1-3 5:10-1-4	2 3 4		X	ON
5:10-1-3  Branch  1  1  1  S POWER SUPP  IDNac Address  5:10-2-1  5:10-2-3  5:10-2-4  5:10-2-5  5:10-2-6  5:10-2-7  5:10-2-8  5:10-2-9	Device # 5:10-1-2 5:10-1-2  DLY 2 - IDNAC CARD 2 -	29vdc 23.vdc 20.7% From PANEL 5:10-1-1	Distance (Feet)	110cd Primary Wire Gauge	DIAG PH AREA Notification SLC	5:10-1-4	4			
Branch  1 1 1 S POWER SUPP IDNac Address 5:10-2-1 5:10-2-2 5:10-2-3 5:10-2-4 5:10-2-5 5:10-2-6 5:10-2-7 5:10-2-8 5:10-2-9	5:10-1  Starting Voltage: Min. Device Voltage: Allowable % Drop:  Device #  5:10-1-1  5:10-1-2  5:10-1-3	29vdc 23.vdc 20.7% From PANEL 5:10-1-1	Distance (Feet)	Primary Wire Gauge	Notification SLC					
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Device # 5:10-1-2 5:10-1-3  PLY 2 - IDNAC CARD 2 -	23.vdc 20.7% From PANEL 5:10-1-1 5:10-1-2	Distance (Feet)	•						
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5:10-1-1 5:10-1-2 5:10-1-3 PLY 2 - IDNAC CARD 2 -	PANEL 5:10-1-1 5:10-1-2	(Feet)		<u> </u>		Wire Res. Per Ft. Wire Res. Per Ft.	0.003070	@ 75° Celsius @ 75° Celsius	1
1 1 1 1 S POWER SUPP IDNac Address 5:10-2-1 5:10-2-2 5:10-2-3 5:10-2-4 5:10-2-5 5:10-2-6 5:10-2-7 5:10-2-8 5:10-2-9	5:10-1-1 5:10-1-2 5:10-1-3 PLY 2 - IDNAC CARD 2 -	PANEL 5:10-1-1 5:10-1-2	<del></del>		<del></del>	Device	Class B Calculation Current	ons Voltage	Voltage	% Vdrop
1 S POWER SUPP IDNac Address 5:10-2-1 5:10-2-2 5:10-2-3 5:10-2-4 5:10-2-5 5:10-2-6 5:10-2-7 5:10-2-8 5:10-2-9	5:10-1-2 5:10-1-3 PLY 2 - IDNAC CARD 2 -	5:10-1-1 5:10-1-2	100	PID 49VO-APPLW	Setting 110cd	Draw 0.1320	at Device 0.396	Drop 0.243	at Device 28.757	Wire Length Branch 1: 1.26%
5:10-2-4 5:10-2-5 5:10-2-6 5:10-2-8 5:10-2-8 5:10-2-8	LY 2 - IDNAC CARD 2 -		50	49VO-APPLW	110cd	0.1320	0.264	0.081	28.676	Length: 200
5:10-2-1 5:10-2-2 5:10-2-3 5:10-2-4 5:10-2-5 5:10-2-6 5:10-2-7 5:10-2-8 5:10-2-9		CIRCUIT 5:10-2	50	49VO-APPLW	110cd	0.1320	0.132	0.041	28.635	
5:10-2-1 5:10-2-2 5:10-2-3 5:10-2-4 5:10-2-5 5:10-2-6 5:10-2-7 5:10-2-8 5:10-2-9		P	D D	Setting			Max 40 Characters)	T	SW	/ITCH SETTINGS
5:10-2-3 5:10-2-4 5:10-2-5 5:10-2-6 5:10-2-7 5:10-2-8 5:10-2-9				-					X	ON
5:10-2-5 5:10-2-6 5:10-2-7 5:10-2-8 5:10-2-9									X X	ON
5:10-2-7 5:10-2-8 5:10-2-9									X	ON
5:10-2-8 5:10-2-9	VO VO	49VO-A		110cd 110cd	BLDG C 1FL DRAW				X   X	ON ON
	VO VO	49VO-A	\PPLW	110cd 110cd	DIAG SE AREA DIAG SE AREA	(V5-1)5:10-2 (V5-1)5:10-2	2-8		, l	X ON
5:10-2-11	VO	49VO-A	\PPLW	110cd	CVC CORR 1D00	(V5-1)5:10-	-2-11		x x x	X ON
5:10-2-12 5:10-2-13	VO VO	49VO-A 49VO-A	\PPLW	110cd 110cd	TOILET 1C131 DIAG SE AREA	(V5-1)5:10-2- (V5-2)5:10-2			X X	X ON
5:10-2-14 5:10-2-15	VO VO	49VO-A		110cd 110cd	DIAG SE AREA DIAG SE AREA	(V5-2)5:10-2 (V5-2)5:10-2				
	5:10-2	•	•		Distributed Load					
	Starting Voltage: [ Min. Device Voltage: Allowable % Drop: [	29vdc 23.vdc 20.7%		Primary Wire Gauge Iome Run Wire Gauge	_		Wire Res. Per Ft. Wire Res. Per Ft. Class B Calculation		@ 75° Celsius @ 75° Celsius	% Vdrop
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	Wire Length
1		PANEL 5:10-2-6	100 35	49VO-APPLW 49VO-APPLW	110cd 110cd	0.1320 0.1320	1.188 1.056	0.729 0.227	28.271 28.044	Branch 1: 6.04% Length: 380
1	5:10-2-8	5:10-2-7 5:10-2-8	35 35	49VO-APPLW 49VO-APPLW	110cd 110cd	0.1320 0.1320	0.924 0.792	0.199 0.170	27.845 27.675	
1	5:10-2-11	5:10-2-9	35	49VO-APPLW	110cd	0.1320	0.660	0.142	27.533	
<u>1</u> 1		5:10-2-11 5:10-2-12	35 35	49VO-APPLW 49VO-APPLW	110cd 110cd	0.1320 0.1320	0.528 0.396	0.113 0.085	27.420 27.334	
1		5:10-2-13 5:10-2-14	35 35	49VO-APPLW 49VO-APPLW	110cd 110cd	0.1320 0.1320	0.264 0.132	0.057 0.028	27.278 27.249	
· · · · · · · · · · · · · · · · · · ·						0.0000	0.000	0.000 0.000	0.000	
						0.0000 0.0000	0.000 0.000	0.000	0.000 0.000	
						0.0000 0.0000	0.000 0.000	0.000 0.000	0.000	
S POWER SUPP	PLY 2 - IDNAC CARD 2 -	CIRCUIT 5:10-3							SW	/ITCH SETTINGS
IDNac Address		P	D	Setting	С	Custom Label (N	Max 40 Characters)		1	
5:10-3-1 5:10-3-2	VO	49VO-A	APPLW	110cd	DIAG SOUTH AREA	A 5:10-3-	-2		X	ON
5:10-3-3 5:10-3-4	VO VO	49VO-A		110cd 110cd	HALL 1C197 SPCL				XX	ON
5:10-3-5 5:10-3-6	VO VO	49VO-A		110cd 110cd	DIAG SOUTH AREA				X	ON
5:10-3-7	VO	49VO-A		110cd	BLDG C 1FL 1C217				X X	ON
5:10-3-8 5:10-3-9					<u> </u>				x 2	X ON ON
5:10-3-10 5:10-3-17	VO VO	49VO-A	APPI W	110cd	DIAG SOUTH AREA	A 5:10-3	3-17	~~~~	~~~~	
5:10-3-20	VO	49VO-A	\PPLW	110cd	DIAG SOUTH AREA	A 5:10-3	3-20			X ON
5:10-3-21 5:10-3-22	V0 V0	49VO-A	APPLW APPLW	110cd 110cd	DIAG 1FL WORK C DIAG SOUTH AREA	A 5:10-3	)-3-21 3-22		X X	X ON A
	Starting Voltage: Min. Device Voltage: Allowable % Drop:	29vdc 23.vdc 20.7%	] }	Primary Wire Gauge	1 -	Voltage Drop	Wire Res. Per Ft. Wire Res. Per Ft.	0.003070 0.003070	@ 75° Celsius @ 75° Celsius	
	, r		_	J		•	Class B Calculation			1
			Distance			Device	Current	Voltage	Voltage	% Vdrop
	Device #	From PANEL	(Feet) 90	PID 49VO-APPLW	Setting 110cd	Draw 0.1320	at Device 1.320	Drop 0.729	at Device 28.271	Wire Length Branch 1: 6.29%
Branch 1		5:10-3-2 5:10-3-3	30	49VO-APPLW 49VO-APPLW	110cd 110cd	0.1320 0.1320	1.188 1.056	0.219 0.195	28.052 27.857	Length: 360
Branch 1 1	5:10-3-2 5:10-3-3	10 3	30	49VO-APPLW 49VO-APPLW	110ca 110cd	0.1320 0.1320	0.924	0.195 0.170		
Branch	5:10-3-2 5:10-3-3 5:10-3-4 5:10-3-5	5:10-3-4	1				_		27.687	<del> </del>
Branch  1  1  1  1  1  1  1	5:10-3-2 5:10-3-3 5:10-3-4 5:10-3-5 5:10-3-6		30 30	49VO-APPLW 49VO-APPLW	110cd 110cd	0.1320 0.1320 0.1320	0.924 0.792 0.660	0.170 0.146 0.122	27.687 27.541 27.420	
1 1 1 1 1 1	5:10-3-2 5:10-3-3 5:10-3-4 5:10-3-5 5:10-3-6 5:10-3-7 5:10-3-17	5:10-3-4 5:10-3-5 5:10-3-6 5:10-3-7	30 30	49VO-APPLW 49VO-APPLW 49VO-APPLW	110cd 110cd 110cd	0.1320 0.1320 0.1320	0.792 0.660 0.528	0.146 0.122 0.097	27.541 27.420 27.322	
1 1 1 1 1 1 1 1	5:10-3-2 5:10-3-3 5:10-3-4 5:10-3-5 5:10-3-6 5:10-3-7 5:10-3-17 5:10-3-20 5:10-3-21	5:10-3-4 5:10-3-5 5:10-3-6 5:10-3-7 5:10-3-17 5:10-3-20	30 30 30 30	49VO-APPLW 49VO-APPLW 49VO-APPLW 49VO-APPLW 49VO-APPLW	110cd 110cd 110cd 110cd 110cd	0.1320 0.1320 0.1320 0.1320 0.1320	0.792 0.660 0.528 0.396 0.264	0.146 0.122 0.097 0.073 0.049	27.541 27.420 27.322 27.249 27.201	
1 1 1 1 1 1 1	5:10-3-2 5:10-3-3 5:10-3-4 5:10-3-5 5:10-3-6 5:10-3-7 5:10-3-17 5:10-3-20 5:10-3-21	5:10-3-4 5:10-3-5 5:10-3-6 5:10-3-7 5:10-3-17	30 30 30	49VO-APPLW 49VO-APPLW 49VO-APPLW 49VO-APPLW	110cd 110cd 110cd 110cd	0.1320 0.1320 0.1320 0.1320	0.792 0.660 0.528 0.396	0.146 0.122 0.097 0.073	27.541 27.420 27.322 27.249	
1 1 1 1 1 1 1 1	5:10-3-2 5:10-3-3 5:10-3-4 5:10-3-5 5:10-3-6 5:10-3-7 5:10-3-17 5:10-3-20 5:10-3-21	5:10-3-4 5:10-3-5 5:10-3-6 5:10-3-7 5:10-3-17 5:10-3-20	30 30 30 30	49VO-APPLW 49VO-APPLW 49VO-APPLW 49VO-APPLW 49VO-APPLW	110cd 110cd 110cd 110cd 110cd	0.1320 0.1320 0.1320 0.1320 0.1320 0.1320	0.792 0.660 0.528 0.396 0.264 0.132	0.146 0.122 0.097 0.073 0.049 0.024	27.541 27.420 27.322 27.249 27.201 27.176	

Circuit						
5:13-1	BL	DG C FL2 CVC	De	escription		
5:13-2 5:13-3	BL	DG C FL2 CVC DG C CATH LAB				
ES POWER SUE	PDI V 2	4 - IDNAC CARD 4	- CIRC	IIIT 5:13-1		
IDNac Addres		Device Type		PIE	)	T
5:13-1-1		VO		49VO-AI		1
5:13-1-2 5:13-1-3		VO VO		49VO-AI 49VO-AI		1
5:13-1-4		VO		49VO-AI		1
5:13-1-5		VO		49VO-AI		1
5:13-1-6		vo		49VO-AI		1
5:13-1-7		V0		49VO-A		1
5:13-1-8 5:13-1-9		VO VO		49VO-AI 49VO-AI		1
0.10 7 3	5:1	13-1		7070 AI	1 277	<u> </u>
		044			1	
	Mir	Starting Voltage: n. Device Voltage:		29vdc 23.vdc		ı
		Allowable % Drop:		20.7%		Ho:
		·				
				_	Distance	е
Branch 1	E.4	<u>Device #</u> 13-1-1	PANE	From	(Feet) 100	
1	_	13-1-1 13-1-2	5:13-1		100 50	
1	_	13-1-3	5:13-1		50	
1		13-1-4	5:13-1	1-3	50	
1		13-1-5	5:13-1		50	
1	_	13-1-6	5:13-1		50	
1	-	13-1-7 13-1-8	5:13-1 5:13-1		50 50	
1		13-1-0 13-1-9	5:13-		50	
ES POWER SUP	PLY 4	4 - IDNAC CARD 4		UIT 5:13-2		_
IDNac Addres	ss	Device Type	)	PIL		
5:13-2-1		VO		49VO-A		1
5:13-2-2 5:13-2-3		VO VO		49VO-AI 49VO-AI		+ - 1
5:13-2-3 5:13-2-4		VO		49VO-AI 49VO-AI		1 1
5:13-2-5		VO		49VO-AI		1
5:13-2-6		VO		49VO-AI	PPLW	1
5:13-2-7		VO		49VO-A	PPLW	1
	5:1	13-2				
	F	Allowable % Drop:		20.7%		Hoi
	<u> </u>		<u> </u>		<b>B</b> .	
Branch		vice #		From	Distance (Feet)	е
Branch 1		evice # 13-2-1	PANE	From EL	Distance (Feet) 100	е
	5:1		PANE 5:13-2	:L	(Feet)	e
1 1 1	5:1 5:1 5:1	13-2-1 13-2-2 13-2-3	5:13-2 5:13-2	EL 2-1 2-2	(Feet) 100 50 50	e
1 1 1 1	5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4	5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3	(Feet) 100 50 50 50	е
1 1 1 1	5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5	5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4	(Feet) 100 50 50 50 50	9
1 1 1 1	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4	5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5	(Feet) 100 50 50 50	9
1 1 1 1 1 1	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6	(Feet) 100 50 50 50 50 50 50	9
1 1 1 1 1 1	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6	(Feet) 100 50 50 50 50 50 50 50	e
1 1 1 1 1 1 1 1 ES POWER SUP	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6	(Feet) 100 50 50 50 50 50 50 50	e
1 1 1 1 1 1 1 1 ES POWER SUP IDNac Addres 5:13-3-1 5:13-3-2	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7 4 - IDNAC CARD 4 Device Type VO	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6 EUIT 5:13-3 PIE 49VO-AI	(Feet) 100 50 50 50 50 50 50 0 PPLW	1 1 1
1 1 1 1 1 1 1 1 ES POWER SUP IDNac Addres 5:13-3-1 5:13-3-2 5:13-3-3	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7 4 - IDNAC CARD 4 Device Type VO VO	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6 EUIT 5:13-3 PIE 49VO-AI 49VO-AI	(Feet) 100 50 50 50 50 50 50 0 PPLW PPLW	e
1 1 1 1 1 1 1 1 ES POWER SUP IDNac Addres 5:13-3-1 5:13-3-2 5:13-3-3	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7 4 - IDNAC CARD 4 Device Type VO VO VO	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6 EUIT 5:13-3 PIE 49VO-AI 49VO-AI 49VO-AI	(Feet) 100 50 50 50 50 50 50 0 PPLW PPLW PPLW	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 ES POWER SUP IDNac Addres 5:13-3-1 5:13-3-2 5:13-3-3	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7 4 - IDNAC CARD 4 Device Type VO VO	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6 EUIT 5:13-3 PIE 49VO-AI 49VO-AI	(Feet) 100 50 50 50 50 50 50 0 90 PPLW PPLW PPLW PPLW	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 ES POWER SUP IDNac Addres 5:13-3-1 5:13-3-2 5:13-3-2 5:13-3-5 5:13-3-5 5:13-3-6 5:13-3-7	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7 4 - IDNAC CARD 4 Device Type VO VO VO VO VO VO VO VO	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6 EUIT 5:13-3 PIE 49VO-AI 49VO-AI 49VO-AI 49VO-AI	(Feet) 100 50 50 50 50 50 50 0 9PLW PPLW PPLW PPLW PPLW	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 ES POWER SUP IDNac Addres 5:13-3-1 5:13-3-2 5:13-3-3 5:13-3-5 5:13-3-5 5:13-3-7 5:13-3-8	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7 4 - IDNAC CARD 4 Device Type VO VO VO VO VO VO VO VO VO VO	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6 EUIT 5:13-3 PIE 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI	(Feet) 100 50 50 50 50 50 50 50 0 PPLW PPLW PPLW PPLW PPLW PPLW PPLW P	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7 4 - IDNAC CARD 4 Device Type VO VO VO VO VO VO VO VO VO VO	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6 EUIT 5:13-3 PIE 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI	(Feet) 100 50 50 50 50 50 50 50 0 PPLW PPLW PPLW PPLW PPLW PPLW PPLW P	11 11 11 11 11 11 11 11 11 11 11 11 11
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5:1 5:1 5:1 5:1 5:1 5:1	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7 4 - IDNAC CARD 4 Device Type VO VO VO VO VO VO VO VO VO VO	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6 EUIT 5:13-3 PIE 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI	(Feet) 100 50 50 50 50 50 50 50 70 70 70 70 70 70 70 70 70 70 70 70 70	11 11 11 11 11 11 11 11 11 11 11 11 11
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5:11 5:15 5:17 5:17 5:17 5:17 5:17	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7 4 - IDNAC CARD 4 Device Type VO VO VO VO VO VO VO VO VO VO	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-2 2-3 2-4 2-5 2-6 EUIT 5:13-3 PIE 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI	(Feet) 100 50 50 50 50 50 50 50 70 70 70 70 70 70 70 70 70 70 70 70 70	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5:11 5:15 5:17 5:17 5:17 5:17 5:17	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7 4 - IDNAC CARD 4 Device Type VO VO VO VO VO VO VO VO VO VO VO VO VO	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-1 2-2 2-3 2-4 2-5 2-6 EUIT 5:13-3 PIE 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI	(Feet) 100 50 50 50 50 50 50 50 70 70 70 70 70 70 70 70 70 70 70 70 70	11 11 11 11 11 11 11 11 11 11 11 11 11
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5:11 5:11 5:11 5:11 5:11 5:11 5:11	13-2-1 13-2-2 13-2-3 13-2-4 13-2-5 13-2-6 13-2-7 4 - IDNAC CARD 4	5:13-2 5:13-2 5:13-2 5:13-2 5:13-2	EL 2-1 2-1 2-2 2-3 2-4 2-5 2-6 EUIT 5:13-3 PIE 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI 49VO-AI	(Feet) 100 50 50 50 50 50 50 50 70 70 70 70 70 70 70 70 70 70 70 70 70	111111111111111111111111111111111111111
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	1			Alarm	<u> </u>	Unit	Wire	Spare	Spare	
Circuit		Description		Current	% Drop	Load*	Length	Current	VoltageDrop	
5:13-1	BLDG C FL2 CVC	, , , , , , , , , , , , , , , , , , , ,		1.188A	7.55%	9	500	60%	64%	
5:13-2	BLDG C FL2 CVC			0.924A	4.89%	7	400	69%	76%	
5:13-3	BLDG C CATH LAB			1.452A	10.76%	11	600	52%	48%	
	PLY 4 - IDNAC CARD 4								SWI	TCH SETTINGS
IDNac Address	•			Setting			Max 40 Characters)		1	1 1 1 1 20
5:13-1-1 5:13-1-2	VO VO	49VO-A			BLDG C 2FL CVC BLDG C 2FL CVC		5:13-1-1 5:13-1-2		-13-1-1 X	ON
5:13-1-2	VO		APPLW		BLDG C 2FL CVC		5:13-1-2 5:13-1-3		-13-1-2 X	ON
5:13-1-4	VO	49VO-7			BLDG C 2FL CVC				-13-1-4	ON
5:13-1-5	VO	49VO-A			BLDG C 2FL CVC				-13-1-5 X	ON
5:13-1-6	VO	49VO-A			BLDG C 2FL WES				-13-1-6 X	ON
5:13-1-7	vo	49VO-A	APPLW	110cd	BLDG C 2FL CVC	MECH RM 2C20	1 5:13-1-7		-13-1-7 X X	ON
5:13-1-8	VO	49VO-A	APPLW	110cd	BLDG C 2FL N C	ORR 2C265 5	i:13-1-8		-13-1-8 X	ON
5:13-1-9	VO	49VO-A	APPLW	110cd	BLDG C 2FL CVC				-13-1-9 X X	ON
	5:13-1				Notification SLC	C Distributed Loa	d Voltage Drop			
	Starting Voltage:	29vdc	7							
	Min. Device Voltage:	23.vdc		Primary Wire Gauge			Wire Res. Per Ft.	0.003070	@ 75° Celsius	
	Allowable % Drop:	20.7%	_	Home Run Wire Gauge	: 14ga		Wire Res. Per Ft.	0.003070	@ 75° Celsius	
							Class B Calculation	ns		
			Distance			Device	Current	Voltage	Voltage	% Vdrop
Branch	Device #	From	(Feet)	PID	Setting	Draw	at Device	Drop	at Device	Wire Length
1	5:13-1-1	PANEL	100	49VO-APPLW	110cd	0.1320	1.188	0.729	28.271	Branch 1: 7.55%
1	5:13-1-2	5:13-1-1	50	49VO-APPLW	110cd	0.1320	1.056	0.324	27.946	Length: 500
1	5:13-1-3	5:13-1-2	50	49VO-APPLW	110cd	0.1320	0.924	0.284	27.663	
1	5:13-1-4	5:13-1-3	50	49VO-APPLW	110cd	0.1320	0.792	0.243	27.420	
1	5:13-1-5	5:13-1-4	50	49VO-APPLW	110cd	0.1320	0.660	0.203	27.217	
1	5:13-1-6	5:13-1-5	50	49VO-APPLW	110cd	0.1320	0.528	0.162	27.055	
1	5:13-1-7	5:13-1-6	50	49VO-APPLW	110cd	0.1320	0.396	0.122	26.933	
1	5:13-1-8 5:13-1-9	5:13-1-7 5:13-1-8	50	49VO-APPLW	110cd	0.1320	0.264	0.081	26.852	
1	5:13-1-9	5:13-1-6	50	49VO-APPLW	110cd	0.1320	0.132	0.041	26.812	
S POWER SUPE	PLY 4 - IDNAC CARD 4	- CIRCUIT 5:13-2							SWI	TCH SETTINGS
IDNac Address			ID	Setting		Custom Label (N	Max 40 Characters)		1	
5:13-2-1	VO		APPLW		BLDG C 2FL CVC				-13-2-1 X	ON
5:13-2-2	VO		APPLW		BLDG C 2FL CVC	RESTROOM 2C	204 5:13-2-2		-13-2-2 X	ON
5:13-2-3	VO	49VO-A	APPLW	110cd	BLDG C 2FL CVC	WAITING 2C262	5:13-2-3		-13-2-3 X X	ON
5:13-2-4	VO	49VO-A	APPLW	110cd	BLDG C 2FL CVC	HALL 2C254	5:13-2-4		-13-2-4	ON
5:13-2-5	VO		APPLW		BLDG C 2FL CVC				-13-2-5 X	ON
5:13-2-6	VO		APPLW		BLDG C 2FL CVC		5:13-2-6		-13-2-6 X	ON
5:13-2-7	5:13-2	4970-7	APPLW	110cd	BLDG C 2FL CVC Distributed Load		5:13-2-7		-13-2-7   X   X	ON
	0.10 2					a romge zrop				
	Starting Voltage:					_	_			
	Min. Device Voltage:			Primary Wire Gauge		_	Wire Res. Per Ft.	0.003070	@ 75° Celsius	
	Allowable % Drop:	20.7%	_	Home Run Wire Gauge	: 14ga		Wire Res. Per Ft.	0.003070	@ 75° Celsius	
							Class B Calculation	ns		
			Distance			Device	Current	Voltage	Voltage	% Vdrop
Branch	Device #	From	(Feet)	PID	Setting	Draw	at Device	Drop	at Device	Wire Length
1	5:13-2-1	PANEL	100	49VO-APPLW	110cd	0.1320	0.924	0.567	28.433	Branch 1: 4.89%
<u>1</u> 1	5:13-2-2 5:13-2-3	5:13-2-1 5:13-2-2	50 50	49VO-APPLW 49VO-APPLW	110cd 110cd	0.1320 0.1320	0.792 0.660	0.243 0.203	28.190 27.987	Length: 400
1	5:13-2-4	5:13-2-2 5:13-2-3	50	49VO-APPLW	110cd	0.1320	0.528	0.203	27.825	
1	5:13-2-5	5:13-2-4	50	49VO-APPLW	110cd	0.1320	0.396	0.102	27.703	
1	5:13-2-6	5:13-2-5	50	49VO-APPLW	110cd	0.1320	0.264	0.081	27.622	
1	5:13-2-7	5:13-2-6	50	49VO-APPLW	110cd	0.1320	0.132	0.041	27.582	
	DIVA IDNACOCOC	OIDOUT F 40.0							21	TOU SETTINGS
S POWER SUPF IDNac Addres:	PLY 4 - IDNAC CARD 4  S Device Type		ID	Setting		Custom I -h -1 /4	lov 10 Chaussters		SWI	TCH SETTINGS
5:13-3-1	VO		APPLW		BLDG C 2FL CVC		Max 40 Characters)		-13-3-1 X	ON
5:13-3-2	VO		APPLW		BLDG C 2FL CVC		5:13-3-2		-13-3-1 X	ON
5:13-3-3	VO	49VO-A			BLDG C 2FL CVC				-13-3-3 X X	ON
5:13-3-4	VO		APPLW		BLDG C 2FL CVC		5:13-3-4		-13-3-4	ON
5:13-3-5	VO		APPLW		BLDG C 2FL CVC		5:13-3-5		-13-3-5 X	ON
5:13-3-6	VO		APPLW		BLDG C 2FL CVC	HALL 2C200	5:13-3-6		-13-3-6 X	ON
5:13-3-7	VO		APPLW		CATH LAB CORR				-13-3-7 X X	ON
	VO		APPLW		CATH LAB CORR		5:13-3-8		-13-3-8 X	
5:13-3-8	VO		APPLW		CATH LAB TOILE		13-3-9		-13-3-9 X X	
5:13-3-8 5:13-3-9		I 49VO-4	APPLW		CATH LAB BY RE				-13-3-10 X X -13-3-11 X X X	
5:13-3-8 5:13-3-9 5:13-3-10	VO		ADDI IA/	771100	VAIR LAB STAFF	F BREAK RM 1C	LZZ J. 13-3-17		-13-3-77   X   X   X	
5:13-3-8 5:13-3-9	VO VO	49VO-A	APPLW	110cd		d Voltage Dron				
5:13-3-8 5:13-3-9 5:13-3-10	VO		APPLW	110ca	Distributed Load	d Voltage Drop				
5:13-3-8 5:13-3-9 5:13-3-10	VO VO 5:13-3 Starting Voltage:	49VO-A	APPLW		Distributed Load	d Voltage Drop				
5:13-3-8 5:13-3-9 5:13-3-10	VO VO 5:13-3 Starting Voltage: Min. Device Voltage:	29vdc 23.vdc	]	Primary Wire Gauge	Distributed Load	d Voltage Drop	Wire Res. Per Ft.[	0.003070	@ 75° Celsius	
5:13-3-8 5:13-3-9 5:13-3-10	VO VO 5:13-3 Starting Voltage:	29vdc 23.vdc	]		Distributed Load	d Voltage Drop	Wire Res. Per Ft. [ Wire Res. Per Ft. [	0.0030 <u>70</u> 0.0030 <u>70</u>		
5:13-3-8 5:13-3-9 5:13-3-10	VO VO 5:13-3 Starting Voltage: Min. Device Voltage:	29vdc 23.vdc	]	Primary Wire Gauge	Distributed Load	d Voltage Drop	E-	0.003070	@ 75° Celsius	

Drop

0.324

0.122

0.081

27.014

25.920

Branch 1: 10.76%

Length: 600

at Device

1.452

1.320

1.188

1.056

0.924

0.792

0.660

0.396

0.264

0.528

0.132 0.041

Draw

0.1320

0.1320

0.1320

0.1320

0.1320

0.1320

0.1320

0.1320

0.1320

0.1320

0.1320

110cd

110cd

110cd

110cd 110cd

110cd

110cd

110cd 110cd

110cd

49VO-APPLW

49VO-APPLW

49VO-APPLW

49VO-APPLW

49VO-APPLW

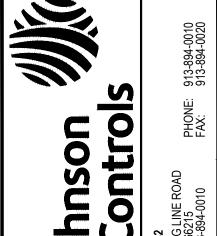
49VO-APPLW

49VO-APPLW

49VO-APPLW

49VO-APPLW

49VO-APPLW





5

**MEDICIN** AR LUKES HOSPITAL NE SAINT LUKE'S E E'S SUMMIT, MO 640 NUCLE/ ST. 100 LEE

SSUE DATE: 7/17/23

PROJECT #: 332:650400519

JOHNSON CONTROLS © 2023

FIRE ALARM SYSTEM

CALCULATIONS AND

**SCHEDULES** 

**FA-602** 

ES POWER SUPPLY	3 - IDNAC CARD 3 -	CIRCUIT 5:12-2								SW	ITCH SE	TTINGS	
IDNac Address	Device Type	PID	)	Setting	Cu	stom Label (M	ax 40 Characters)			1			
5:12-2-1	VO	49VO-AF	PPLW 1	110cd	1FL WAITING C102	5:12-2-1			-12-2-1	X		ON	
5:1	5:12-2 Distributed Load Voltage Drop												
	Starting Voltage: n. Device Voltage: Allowable % Drop:	29vdc 23.vdc 20.7%		Primary Wire Gauge. me Run Wire Gauge.			Wire Res. Per Ft. Wire Res. Per Ft. Class B Calculation	0.003070 0.003070	@ 75° Celsius @ 75° Celsius		]		
			Distance			Device	Current	Voltage	Voltage	9		% Vdrop	
Branch De	evice #	From	(Feet)	PID	Setting	Draw	at Device	Drop	at Devic	e		Nire Leng	th
1 5:1	12-2-1	PANEL	100	49VO-APPLW	110cd	0.1320	0.132	0.081	28.919		Br	anch 1: 0.:	28%





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To: Saint Lukes East Hospital Project: SLE NUC Med Spect CT FA

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 JCI#: 650400519

 Lee Summit, MO, 64086
 Date: 07/17/23

### Fire Alarm System Material List

Item	Part Number	Description
1 4098-9714 PHOTOELECTRONIC SMOKE SENSOR		PHOTOELECTRONIC SMOKE SENSOR
2 4098-9792 STANI		STANDARD SENSOR BASE
3 4098-9791 SENSOR BASE WITH R		SENSOR BASE WITH RELAY DRIVER
4	2098-9737	RELAY DETECTOR ACCESSORY

## **5** Simplex

UL, ULC, CSFM Listed; FM Approved; MEA (NYC) Acceptance\*

#### True Alarm Analog Sensing

TrueAlarm Analog Sensors – Photoelectric and Heat: Standard Bases and Accessories

#### **Features**

#### TrueAlarm analog sensing provides:

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

#### For use with the following Simplex® products:

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

#### Fire alarm control panel provides:

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

#### Photoelectric smoke sensors provide:

 Seven levels of sensitivity from 0.2% to 3.7% (refer to additional information on page 3)

#### Heat sensors provide:

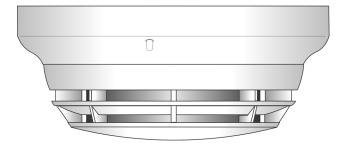
- Three fixed temperature sensing thresholds: 135° F, 155° F and 190° F
- Rate-of-rise temperature sensing
- Utility temperature sensing
- Listed to UL 521 and ULC-S530

#### **General features:**

- Operation is for ceiling or wall mounting
- Listed to UL 268 and ULC-S529
- Louvered smoke sensor design enhances smoke capture by directing flow to chamber; entrance areas are minimally visible when ceiling mounted
- Designed for EMI compatibility
- Magnetic test feature is provided
- Different bases are available to support a supervised or unsupervised output relay, and/or a remote LED alarm indicator

#### Additional base reference:

- For isolator bases, refer to data sheet S4098-0025
- For sounder bases, refer to data sheet S4098-0028
- For photo/heat sensors, refer to data sheet S4098-0024 (single address) and S4098-0033 (dual address)
- These products have been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listings 7272-0026:218, 7271-0026:231, 7270-0026:216, and 7300-0026:217 for allowable values and/or conditions concerning material presented in this document. Accepted for use City of New York Department of Buildings MEA35-93E. Additional listings may be applicable, contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



4098-9714 TrueAlarm Photoelectric Sensor Mounted in Base

#### Description

**Digital Communication of Analog Sensing.** TrueAlarm analog sensors provide an analog measurement digitally communicated to the host control panel using Simplex addressable communications. At the control panel, the data is analyzed and an average value is determined and stored. An alarm or other abnormal condition is determined by comparing the sensor's present value against its average value and time.

**Intelligent Data Evaluation.** Monitoring each sensor's average value provides a continuously shifting reference point. This software filtering process compensates for environmental factors (dust, dirt, etc.) and component aging, providing an accurate reference for evaluating new activity. With this filtering, there is a significant reduction in the probability of false or nuisance alarms caused by shifts in sensitivity, either up or down.

**Control Panel Selection.** Peak activity per sensor is stored to assist in evaluating specific locations. The alarm set point for each TrueAlarm sensor is determined at the host control panel, selectable as more or less sensitive as the individual application requires.

**Timed/Multi-Stage Selection.** Sensor alarm set points can be programmed for timed automatic sensitivity selection (such as more sensitive at night, less sensitive during day). Control panel programming can also provide multi-stage operation per sensor. For example, a 0.2% level may cause a warning to prompt investigation while a 2.5% level may initiate an alarm.

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

#### True Alarm Sensor Bases and Accessories

#### **Sensor Base Features**

#### Base mounted address selection:

- Address remains with its programmed location
- Accessible from front (DIP switch under sensor)

#### General features:

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

#### **Sensor Bases**

#### 4098-9792, Standard Sensor Base

#### 4098-9789, Sensor Base with wired connections for:

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

#### Supervised Relay Bases (not compatible with 2120 CDT):

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

#### **Sensor Base Options**

#### 2098-9737, Remote or local mount supervised relay:

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

#### 4098-9860, Remote or local mount supervised relay:

 SPDT dry contacts, power limited rating of 2 A @ 30 VDC, resistive; non-power limited rating of 0.5 A @ 125 VAC, resistive

#### 4098-9822, LED Annunciation Relay:

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

#### 4098-9832, Adapter plate:

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

## 2098-9808, Remote red LED Alarm Indicator:

• Mounts on single gang box (shown in illustration to right)



#### Description

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

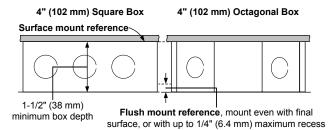
Since TrueAlarm sensors use the same base, different sensor types can be easily interchanged to meet specific location requirements. This feature also allows intentional sensor substitution during building construction. When conditions are temporarily dusty, instead of covering the smoke sensors (causing them to be disabled), heat sensors may be installed without reprogramming the control panel. Although the control panel will indicate an incorrect sensor type, the heat sensor will operate at a default sensitivity providing heat detection for building protection at that location.

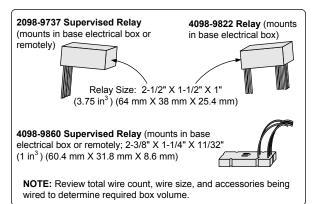
#### **Mounting Reference**

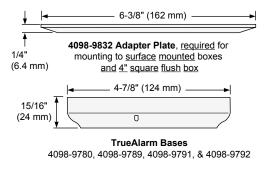
Electrical Box Requirements: (boxes are by others)

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

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







#### True Alarm Sensors

#### **Features**

Sealed against rear air flow entry Interchangeable mounting EMI/RFI shielded electronics

#### **Heat sensors:**

- Selectable rate compensated, fixed temperature sensing with or without rate-of-rise operation
- Rated spacing distance between sensors:

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

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

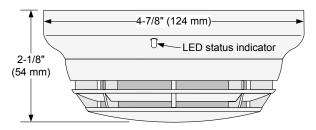
#### **Smoke Sensors:**

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

#### 4098-9714 Photoelectric Sensor

TrueAlarm photoelectric sensors use a stable, pulsed infrared LED light source and a silicon photodiode receiver to provide consistent and accurate low power smoke sensing. Seven levels of sensitivity are available for each individual sensor, ranging from 0.2% to 3.7% per foot of smoke obscuration. Sensitivities of 0.2%, 0.5%, and 1% are for special applications in clean areas. Standard sensitivities are 1.5%, 2.0%, 2.5%, 3.0%, and 3.7%. Application type and sensitivity are selected and then monitored at the fire alarm control panel.\*

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



4098-9714 Photoelectric Sensor with Base

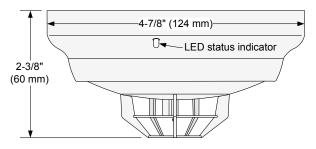
#### 4098-9733 and 4098-9734 Heat Sensors

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

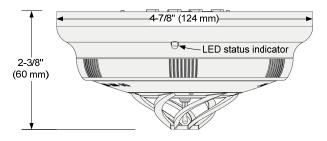
Rate-of-rise temperature detection is selectable at the control panel for either 15° F (8.3° C) or 20° F (11.1° C) per minute. Fixed temperature sensing is independent of rate-of-rise sensing and programmable to operate at 135° F (57.2° C) or 155° F (68° C). The 4098-9734 sensor provides an additional 190° F (88° C) set point.

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

TrueAlarm heat sensors can be programmed as a utility device to monitor for temperature extremes in the range from 32° F to 155° F (0° C to 68° C). This feature can provide freeze warnings or alert to HVAC system problems. *Refer to specific panels for availability*.



4098-9733 Heat Sensor with Base



4098-9734 High Temperature Heat Sensor with Base

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

#### **Application Reference**

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

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

#### **TrueAlarm Analog Sensing Product Selection Chart**

#### TrueAlarm Sensor Bases (for use with Sensors 4098-9714 and 4098-9733)

4 octagonal or 4 square box, 1-1/2
4098-9776 Black Standard Sensor Base No options 4 octagonal or 4 square box, 1-1/2
4098-9789 White Sensor Base with connections for Remote LED Alarm Indicator or Remote LED Alarm Indicator or 4 octagonal or 4 square box, 1-1/2
min. depth; or single gang box, 2"
min. depth

4 octagonal or 4 square box, 1-1/2
min. depth; or single gang box, 2"
min. depth

4 octagonal or 4 square box, 1-1/2
min. depth; or single gang box, 2"
min. depth

4 octagonal or 4 square box, 1-1/2
min. depth; or single gang box, 2"
min. depth

4 octagonal or 4 square box, 1-1/2
min. depth; or single gang box, 2"
min. depth; or single gang box, 2"
min. depth

4 octagonal or 4 square box, 1-1/2
min. depth; or single gang box, 2"
min. depth

4098-9822 Unsupervised Relay Note: Box depth requirements Unsupervised Relay 4098-9775 Black depend on total wire count and wire size, refer to accessories 4-Wire Sensor Supervised Relay 2098-9737 Supervised Remote Relay list below for reference. 4098-9791\*\* White Base with connections for LED 2098-9808 Remote Alarm Indicator or \*\* NOTE: 4098-9791 and 4098-Indicator or Unsupervised Relay 4098-9822 Unsupervised Relay 9780 are NOT compatible

4098-9780\*\* White Sensor Supervised Relay Base with connections for LED Indicator or Unsupervised Relay Unsupervised Relay 4098-9808 Remote Alarm Indicator or 4098-9822 Unsupervised Relay 4098-9822 Unsupervised Relay

**TrueAlarm Sensors** 

Truchianin och	3013				
Model*	Model*	Description	Compatibility	Mounting Requirements	
4098-9714	White				
4098-9714 IND	vviille	Photoelectric Smoke Sensor	Barra 4000 0775 4000 0770 4000 0700		
4098-9774	Black		Bases 4098-9775, 4098-9776, 4098-9792,	Refer to base requirements	
4098-9733	White	Heat Sensor	4098-9789, 4098-9791, and 4098-9780		
4098-9734	White	High Temperature Heat Sensor			

TrueAlarm Sensor/Base Accessories

Model	Description	Compatibility	Mounting Requirements		
electrical box  Supervised Relay mounts remote or in base		For use with 4098- <u>9791</u> base	Remote Mounting requires 4" octagonal or 4" square box, 1-1/2" minimum depth  Base Mounting requires 4" octagonal box, 2- 1/8" deep with 1-1/2" extension ring		
		For use with 4098- <u>9780</u> base			
2098-9808	Remote Red LED Alarm Indicator on single gang stainless steel plate	Bases 4098-9789, 4098-9791, and 4098- 9780	Single gang box, 1-1/2" minimum depth		
4098-9822		Bases 4098-9789, 4098-9791, and 4098- 9780	4" octagonal box, 2-1/8" deep with 1-1/2" extension ring		
4098-9832 Adapter Plate		Bases 4098-9792, 4098-9789, 4098-9791, and 4098-9780	Required for surface or semi-flush mounted 4" square box and for surface mounted 4" octagonal box		

<sup>\*</sup> Note: Model numbers ending in IND are assembled in India.

#### **Specifications**

#### **General Operating Specifications**

Communications and Sensor S	Supervisory Power	IDNet or MAPNET II communications, auto-selected, 1 address per base			
Communications Connections		Screw terminals for in/out wiring, 18 to 14 AWG (0.82 mm² to 2.08 mm²)			
Remote LED Alarm Indicator C	Current	1 mA typical, no impact to alarm current			
Remote LED Alarm Indicator a	nd Relay Connections	Color coded wire leads, 18 AWG (0.82 mm <sup>2</sup> )			
UL Listed Operating Temperat	ure Range	32° to 100° F (0° to 38° C)			
	with 4098-9733 Heat Sensor	32° to 122° F (0° to 50° C)			
Operating Temperature Range -	with 4098-9714 Smoke Sensor	15° to 122° F (-9° to 50° C)			
- Tange	With 4098-9734 Heat Sensor	32° to 150° F (0° to 66° C)			
Storage Temperature Range		0° F to 140° F (-18° C to 60° C)			
Humidity Range		10 to 95% RH			
4098-9714 Smoke Sensor Air	Velocity Rating	0-4000 ft/min (0-1220 m/min)			
Housing Color		Frost White or Black			
4098-9791 Base With Superv	ised Remote Relay 2098-9737 (see	page 2 for contact ratings)			
Externally Supplied Relay Coil	Voltage	18-32 VDC (nominal 24 VDC)			
Supervisory Current		270 μA, from 24 VDC supply			
Alarm Current with 2098-9737	Relay	28 mA, from 24 VDC supply			
4098-9780 Base With Superv	ised Remote Relay 4098-9860 (see	page 2 for contact ratings)			
Power		Supplied from communications			
4098-9822 Unsupervised Rel	ay, Requirements for Bases 4098-9	9789. 4098-9791, and 4098-9780 (see page 2 for contact ratings)			
Externally Supplied Relay Coil	Voltage	18-32 VDC (nominal 24 VDC)			
Supervisory Current		Supplied from communications			
Alarm Current		13 mA from separate 24 VDC supply			

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ADD 1 06.12.23 ASI 1 - RECOVERY

pending ASI 2 - RAD OFFICE

FIRST FLOOR DIMENSION PLAN

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NEW BASE AND PAINT TO MATCH EXISTING WAITING ROOM FINISHES