Johnso Cont	n rols		F F	IA PF RE	KIN T 2N AL/	
DRAWING INDEX			LEGEN	DS		
Sheet List Table Sheet Number FA-001 FA-101 FA-601 FA-701 SENERAL NOTES	Sheet Title COVER SHEET DEVICE PLACEMENT PLAN CALCULATIONS AND SCHEDI WIRING TYPICALS	JLES	FIRE AL SYMBOL DI NAC# 40 INITIATING DEV S AD S AD S AD S AD S AD S AD S AD S AD	ARM S ESCRIPTION 09 IDNET NAC EX 10 ESCRIPTION 09 IDNET NAC EX 10 ESSABLE 10 T SMOKE DETI 10 T	SYMBOL L S SYMBOL L S X XTENDER PANEL, 120 VA ADDRESSABLE, PHOTOEL ECTOR, ADDRESSABLE I9" ADDRESSABLE ISI TIONAL, WALL MOUNT, M ING DNVENTIONAL, CEILING M ETTERING ATION W/ LED AND KEY S	
THESE DRAWINGS DEPICT GENERAL LOC CONDUITS IS TO BE DETERMINED IN THE SHALL BE CLEARLY INDICATED ON THE R	ATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. E FIELD BY THE INSTALLING CONTRACTOR TO SUIT CONDI ECORD DRAWINGS.	XACT ROUTING OF TIONS. ALL CHANGES			DTE TEST SWITCH/LED	(2) 2
SHOULD ANY CONDITIONS EXIST THAT D DEVIATIONS IN THE WORK SHOWN, THE CONSTRUCTION SCI	FFER FROM WHAT IS INDICATED ON THESE DRAWINGS V CONTRACTOR SHALL CONTACT JOHNSON CONTROLS IN A	/HICH CAUSE MAJOR A TIMELY MANNER SO AS		M IDNE	T	
CONTRACTOR IS RESPONSIBLE FOR MAR CIRCUITING AS REQUIRED TO ACCOMMO	ILDULE. ING AND OBTAINING APPROVAL FOR ALL NECESSARY AL DATE THE RELOCATION OF EQUIPMENT AND/OR DEVICES	DJUSTMENTS IN SWHICH ARE AFFFCTFD		R RELA	Y	20
BY ANY AUTHORIZED CHANGE. ALL CHAN A STAMPED SET OF APPROVED FIRE ALA	GES SHALL BE CLEARLY INDICATED ON THE RECORD DR RM DRAWINGS SHALL BE AT THE JOB SITE AND SHALL BE	AWINGS. USED FOR		V VISU		2
INSTALLATION. THE POWER CIRCUIT TO THE FACP AND	O THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DE	DICATED 120V, 20A			1/2"	<u> </u>
BRANCH CIRCUIT BREAKER, AND SHALL I ALARM CIRCUIT CONTROL." THE LOCATI	AVE A RED MARKING, LOCK-ON PROVISION AND SHALL E DN OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREA	BE IDENTIFIED AS "FIRE KER) SHALL BE			3/4" 1"	

- PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT. 6. UPDATE THE AS-BUILT DRAWING SET DAILY WITH JOB PROGRESS. RETURN THE AS-BUILT DRAWING SET TO JOHNSON CONTROLS NO LATER THAN 7 DAYS AFTER FINAL TEST. 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.
- 9. 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.
- 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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C	CIRCUIT DESCRIPTION	CIRCUIT PROPERTIES	FPLR	FPLP	THHN	TFFN	OUTD	C.L.		
к	REMOTE TEST SWITCH/LED	(2) 2 COND. SOLID	14 AWG	>		х				
М	IDNET	UTP SOLID	18 AWG	AWG 0.60µF MAX TOTAL LINE CAPACITANCE >		Х				
R	R RELAY 2 COND. SOLID 14 AWG			х	х	х	Х			
v	VISUAL	2 COND. SOLID	14 AWG		Х	х				
	CONDUIT SIZE	MAX CONDUCTOR	AREA	CONDUIT SIZE	M	AX CO	ONDU	јсто	R ARE	EA
	1/2"	0.122 SQ. INCH	0.122 SQ. INCH* 1-1/4"			0.598 SQ INCH*				
3/4"		0.213 SQ INCH*		1-1/2"	0.814 SQ INCH		Ή*			
1"		0.346 SQ INCH*		2"	1.342 SQ INCH*			:H*		
		* 40% CO	NDUIT FILL PE	R N.E.C.						
		STP = SHI	ELDED TWIST	ED PAIR						
UTP = UNSHIELDED TWISTED PAIR										

ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM 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.

HARNETT COUNTY DSS **D FLOOR RM SYSTEM**



OCCUPANCY TYPE(S): B BUSINESS GROUP

SPRINKLER PROTECTION: UNKNOWN

SCOPE OF WORK

NODIFY EXISTING FIRE ALARM SYSTEM: PROVIDE NEW DEVICES, RELOCATE AND DEMO EXISTING DEVICES AS SHOWN (ALL NEW WIRING IS TO BE CLASS B FOR NOTIFICATION APPLIANCE CIRCUITS, CLASS A FOR INITIATING DEVICE CIRCUITS, CIRCUITS.

THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DISCONNECTED OR TAKEN OUT OF SERVICE WITHOUT WRITTEN PERM OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER THE TIMING OF ANY EXISTING FIR DEMOLITION WORK.

ABBREVIATIONS LEGEND

AC = ABOVE CEILING
AFF = ABOVE FINISHED FLOOR

- AHJ = AUTHORITY HAVING JURISDICTION ALM = ALARM
- ANN = ANNUNCIATOR BMS = BUILDING MANAGEMENT SYSTEM
- C = CEILING MOUNTED CD = CANDELA RATING
- DET = DETECTOR DGP = DATA GATHERING PANEL
- E = EXISTING TO REMAIN EOL = END OF LINE
- EPO = EMERGENCY POWER OFF ER = ELEVATOR RECALL
- FAA = FIRE ALARM ANNUNCIATOR FACP = FIRE ALARM CONTROL PANEL
- FATC = FIRE ALARM TERMINAL CABINET
- FBO = FURNISHED BY OTHERS FCC = FIRE COMMAND CENTER
- FSD = FIRE SMOKE DAMPER FTR = FIRE ALARM TRANSPONDER
- H = HIGH HUMIDITY HT = HFIGHT
- HVAC = HEATING VENTILATION & AIR CONDITIONING
- IMS = INFORMATION MANAGEMENT SYSTEM
- MAX = MAXIMUM MIN = MINIMUM
- N/A = NOT APPLICABLE NAC = NOTIFICATION APPLIANCE CIRCUIT
- NDU = NETWORK DISPLAY UNIT

NFPA = NATIONAL FIRE PROTECTION AS NIC = NOT IN CONTRACT NPU = NETWORK PROCESSING UNIT

NEC = NATIONAL ELECTRIC CODE

- NTS = NOT TO SCALE PAP = PRE-ACTION PANEL
- RC = EXISTING TO REMOVE AND COVE
- RD = EXISTING DEVICE TO BE RELOCA RL = RELOCATED DEVICE
- RR = REMOVE EXISTING & REPLACE W SCC = STATUS COMMAND CENTER
- SLC = SIGNALING LINE CIRCUIT SMK = SMOKE
- SUPV = SUPERVISORY
- TAC = TRUEALERT ADDRESSABLE CONT TOS = TOP OF SHAFT
- TRBL = TROUBLE TS = TAMPER SWITCH
- TYP = TYPICAL UON = UNLESS OTHERWISE NOTED
- VCC = VOICE COMMAND CENTER VT = VALVE TAMPER
- W = WATTAGE W/ = WITH
- W/O = WITHOUT WF = WATERFLOW
- WG = WIRE GUARD WP = WEATHERPROOF
- XP = EXPLOSION PROOF

GEND

	BRAND / MODEL	BACKBOX	WIRE TYPE(S)
	4009-9201	SIMPLEX CABINET	
			•
W/ STANDARD BASE,	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	М
	4098-9755	MOUNTS TO DUCTWORK	М
	4098-9856		
	4090-9008	4" SQ. 2-1/8" D W/ COVER	M,R
	#N/A		
IDELA, CLEAR LENS,	4906-9101	SINGLE GANG 1-1/2" D	V
TI CANDELA, CLEAR	4906-9127	4" SQ. 1-1/2" D	V
ULTI CANDELA, CLEAR	4906-9128	4" SQ. 1-1/2" D	V
			•
	2098-9806	SINGLE GANG 2" D	к
	I		-

ACCEPTABLE

CABLE TYPES

LEGEND

	JOHNSON CONTR	OLS CONTACTS	
	Sales Representative STEPHEN SANDER STEPHEN.JOHN.SANDER@JCI.COM PHONE:919-208-0215	Drawings Prepared By THOMAS PALCZUK THOMAS.PALCZUK-EXT@JCI.COM PHONE:	29-6400 55-3401
	PERRY MILLS PERRY MILLS PERRY.MILLS@JCI.COM PHONE:919-971-3198	Drawings Reviewed By JOE SIMMONS JOE.SIMMONS@JCI.COM PHONE:919-455-9023	TE 105 TE 105 FAX: 919-27 919-27 919-27
N)	PROJECT DIRECT	ORY	Definition of the second secon
)	Site HARNETT COUNTY DSS 311 W CORNELIUS HARNETT B LILLINGTON, NC 27546	Johnson Controls District - 250 540 CIVIC BLVD, SUITE 105 RALEIGH, NC 27610 PHONE: 919-279-6400 FAX: 919-255-3401 SERVICE: 919-279-6400	
N DRAWINGS. AND SIGNALING LINE	General Contractor KENNEDY ELECTRIC SERVICE LLC 1304 WHITE FLASH RD. 800 N. CHURCH ST. MOUNT OLIVE, NC 28365	• • • •	
ISSION FROM THE E ALARM SYSTEM	DESIGN STATEME THIS PROJECT'S DESIGN IS BASED ON THE ENGINE ARCHITECT OR ENGINEER NAME ARCHITECTURAL PLANS DATED: MECHANICAL PLANS DATED: ELECTRICAL PLANS DATED: SPECIFICATIONS DATED: ADDENDUM DATED:	ENT ERED PLANS AND SPECIFICATIONS PREPARED BY:	SS
	DEVICE TAG LEGE	END	
R TED /ITH NEW TROLLER	PANEL DES • FA: = • #: = N • T#: = ? • #:T# = • N#: = • CIRCUIT DE • A# = 1 • D# = E • F# = F • H# = A • M# = I • P# = F • S# = S • V# = V • EVICE NU BRANCH / I • (L#) = • (H# = I) • (L#) = • (H# = I) • (E#:#) 1. IDNAC = 1. IDNAC = 1. IDNAC = 2. EPR = EN	FACP (NON-NETWORK) IODE NUMBER TRANSPONDER NUMBER NODE:TRANSPONDER NUMBER NAC EXTENDER NUMBER ESIGNATOR DNAC ¹ CIRCUIT NUMBER DOOR HOLDER CIRCUIT NUMBER ITRE PHONE CIRCUIT NUMBER IDNET LOOP NUMBER POWER CIRCUIT NUMBER SPEAKER CIRCUIT NUMBER SPEAKER CIRCUIT NUMBER ZONE NUMBER IDNET ISOLATED LOOP DESIGNATOR: IDNET ISOLATED LOOP NUMBER DNAC BRANCH NUMBER = EPR ² NUMBER:BRANCH NUMBER ADDRESSABLE NOTIFICATION CIRCUIT WHANCED POWER REPEATER	HARNETT COUNT UPFIT 2ND FLOOF HARNETT COUNTY DSS 311 W CORNELIUS HARNETT B LILLINGTON, NC 27546
			CHK DESCRIPTION Revisions shown with A syr
			Wark Mark Date Image: Sign of the state
			CHECKED BY: J SIMMONS ISSUE DATE: 7/23/24 JOB #: 250581495 PROJECT #: 24:650581495 JOHNSON CONTROLS © 2024 SYSTEM: FIRE ALARM SYSTEM SHEET: COVER SHEET
			FA-001



SYMBOL	DESCRIPTION	BRAND / MODEL	BACKBOX	WIRE TYPE(S
NAC#	4009 IDNET NAC EXTENDER PANEL, 120 VAC, BEIGE	4009-9201	SIMPLEX CABINET	
NITIATING I	DEVICES			
S	SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	М
Ś	DUCT SMOKE DETECTOR, ADDRESSABLE	4098-9755	MOUNTS TO DUCTWORK	М
Ċ	SAMPLING TUBE, 49"	4098-9856		
	ND RELAYS			
AOM	DUAL RELAY IAM, ADDRESSABLE	4090-9008	4" SQ. 2-1/8" D W/ COVER	M,R
_	#N/A	#N/A		
OTIFICATI	ON APPLIANCES			
¥ ₩	STROBE, CONVENTIONAL, WALL MOUNT, MULTI CANDELA, CLEAR LENS, RED, FIRE LETTERING	4906-9101	SINGLE GANG 1-1/2" D	V
X #	HORN/STROBE, CONVENTIONAL, WALL MOUNT, MULTI CANDELA, CLEAR LENS, RED, FIRE LETTERING	4906-9127	4" SQ. 1-1/2" D	V
ö #	HORN/STROBE, CONVENTIONAL, CEILING MOUNT, MULTI CANDELA, CLEAR LENS, RED, FIRE LETTERING	4906-9128	4" SQ. 1-1/2" D	V
MISCELLAN	EOUS DEVICES			
\mathbf{X}	REMOTE TEST STATION W/ LED AND KEY SWITCH	2098-9806	SINGLE GANG 2" D	К

GENERAL NOTES:

- ALL CEILINGS ARE ASSUMED TO BE 10' A.F.F., SMOOTH CONSTRUCTION UNLESS NOTED OTHERWISE.
 THE DEVICE ADDRESSES INDICATED ON THESE DRAWINGS ARE AN
- ALPHANUMERIC DESCRIPTION OF WHICH CIRCUIT THE DEVICE IS LOCATED ON. DEVICES MAY BE ASSIGNED A DIFFERENT NUMBER WITHIN THE PANEL PROGRAM. CONSULT WITH A JOHNSON CONTROLS TECHNICIAN BEFORE APPLYING A PHYSICAL LABEL TO ANY DEVICES.

KEYNOTES:

FIELD COORDINATE DUCT DETECTOR LOCATION.

 Image: Second constraints
 FIELD COORDINATE NAC PANEL LOCATION.

						_				
						AC Ca	CEF	TAB TYP	LE ES	
FIR	E ALARM WI	RE LEGEN	ID						00R **	
С	IRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	FPLR	FPLP	THHN	TFFN	олтр	C.I.
K	REMOTE TEST SWITCH/LED	(2) 2 COND. SOLID	14 AWG		Х	х				
Μ	IDNET	UTP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE		Х				
R	RELAY	2 COND. SOLID	14 AWG		х	х	Х	Х		
۷	VISUAL	2 COND. SOLID	. SOLID 14 AWG		x	х				
	CONDUIT SIZE	MAX CONDUCTOR	AREA	CONDUIT SIZE	M	AX CO	ONDU	сто	R ARI	ΞA
	1/2" 0.122 SQ. INCH* 1-1/4" 0.598 SQ				Q INC	Ή*				
3/4"		0.213 SQ INCH	i*	1-1/2"	0.814 SQ INCH*					
1" 0.346 SQ INCH* 2"			1.342 SQ INCH*							
		* 40% COI	NDUIT FILL PE	R N.E.C.						
		STP = SHI	ELDED TWIST	ED PAIR						
		UTP = UNSI	HIELDED TWIS	ITED PAIR						
								тліі		1

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.



IN FEET

0 4' 8'

			Standby	Total
Module	Qty	Description	Current	Standb
Panel Equipment				
4100-9701	1	ES PS Master Controller - English 1	0.2770	0.2770
4100-2300	1	EXPANSION BAY (PHASE 10 ONLY)	0.0000	0.0000
4100-2504	1	CONNECTED SERVICES GATEWAY WITH IP COMMUNICATOR - SIDE MOUNT	0.1250	0.1250
4100-6104	1	ES NET SLOT MOUNT NETWORK INTERFACE CARD	0.1200	0.1200
4100-6307	1	ES NET DUAL CHANNEL DSL MEDIA CARD	0.1350	0.1350
4100-5450	1	NAC Card	0.0660	0.0660
4100-0644	1	120 VAC PDM HARNESS	0.0000	0.0000
4100-0634	1	POWER DISTRIBUTION MODULE 120V	0.0000	0.0000
4100-1294	1	LED/SWITCH SLIDE-IN LABEL KIT	0.0000	0.0000
4100-5131	1	ES-PS Fan Module	0.0000	0.0000
4100-1284	1	8 SW, 16 RED/GREEN LED MODULE	0.0000	0.0000
4100-3209	1	8-POINT 3A RELAY CARD WITH FEEDBACK	0.0160	0.0160
4100-1288	1	64/64 LED/SWITCH CONTROLLER	0.0200	0.0200
4100-1279	1	2" BLANK DISPLAY MODULE	0.0000	0.0000
		Panel Totals		0.7590
IDNet Addressable D	evices (S	LC)		
4009-9201	1	4009 IDNET NAC EXTENDER, 120 VAC *		
4090-9002	4	IDNET RELAY IAM *		
4090-9008	1	ADDRESSABLE DUAL CONTACT RELAY IAM *	Constant current dr	aw of 8mA et
4098-9714	40	TRUEALARM PHOTO SMOKE SENSOR	Devices requiring	g additional c
			labeled "Miscelland	anus Parinha

vice Address cur	rent draw	included below (See Additional Current Draws):	System 1	fotals*:	Standby	0.8078
			Address Totals	61	Addresses	0.0488
4099-9006	5	ADDRESSABLE DOUBLE ACTION MANUAL STATION, PUSH *				
4098-9792	45	TRUEALARM SENSOR BASE *				
4098-9755	5	TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT *				
4098-9733	5	TRUEALARM HEAT SENSOR				Dus Peripheral L Pov

IDNet cards include 40mA alarm current for 20 device LEDs in alarm in addition to base current listed on datasheet. 1. Base FACP includes current draw for all included components. See data sheet for details.

			Standby	Standby
Battery Set #1 (Cabinet/Charger #1)			Current	Total
Select ALL Power Supplies on this battery set:				
ESPS-1				0.7590
			Sub Total	0.7590
Additional Current Draws:				
IDNAC Current Boost for 29vdc Regulated Output **				
RUI Connected Peripher	al Devices	0	x 0.0035	= 0.0000
MAPNET/IDNet Device Address Communication	on Current	61	x 0.000800	= 0.0488
			Sub Total	0.8078
Spare addressable point capacity	0%	0	x 0.0008	= 0.0000
			Total	0.8078
Standby Time =	24	Hrs	x 0.8078	= 19.3872
Alarm Time =	5	Min	0.08333 x 1.464	= 0.1220
				19.5092
Additional Spare Battery Capacity =	0%		+	0.0000
		-	-	19.5092
Battery Discharge Factor =	20%		+	3.9018
Minimum Battery Required	2081-9287	7 25AH (2x)	=	23.4110
Battery Supplied	2081-9287	7 25AH (2x)		
* System Totals represent total system current requirements. Those currents may	be distrib	uted betwee	n multiple battery sets	s or power supr

* 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

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Alarm	Total
Current	Alarm
0.3210	0.3210
0.0000	0.0000
0.1250	0.1250
0.1200	0.1200
0.1350	0.1350
0.0660	0.0660
0.0000	0.0000
0.0000	0.0000
0.0000	0.0000
0.2000	0.2000
0.0240	0.0240
0.2000	0.2000
0.2120	0.2120
0.0000	0.0000
	1.4030

standby and 1mA alarm per address used. I current are accounted for in the section ripheral Devices Requiring Additional System Power".

	0.0610
Alarm	1.4640

бу	Alarm	Alarm
I	Current	Total
.7590		1.4030
.7590		1.4030
		0.0000
.0000	x 0.0035	= 0.0000
.0488	x 0.001000	= 0.0610
.8078		1.4640
.0000	x 0.001	= 0.0000
.8078		1.4640
.3872	Standby Ah	
.1220	Alarm Ah	
.5092		
.0000		
.5092		
.9018		

			Standby	Total	Alarm	Total
Module	Qty	Description	Current	Standby	Current	Alarm
anel Equipment						
4009-9201	1	4009 IDNET NAC EXTENDER, 120 VAC	0.0850	0.0850	0.1850	0.1850
		Panel Totals		0.0850		0.1850
lotification Applianc	es	Setting				
4606-9101	3	REMOTE LCD ANNUNCIATOR 15	0.0650	0.1950	0.1400	0.4200
4906-9127	3	A/V MC NON-ADDRESS, RED, WALL 15	0.0000	0.0000	0.0750	0.2250
4906-9128	1	A/V MC NON-ADDRESS, RED CEILING 30	0.0000	0.0000	0.1320	0.1320
4906-9128	2	A/V MC NON-ADDRESS, RED CEILING 75	0.0000	0.0000	0.2500	0.5000
		Peripheral Totals		0.1950		1.2770
		System Totals*:	Standby	0 2800	Alarm	1.4620

				Standby	Standby	Alarm	Alarm
Battery S	et #1 (Cabinet/Charger #1)	Current	Total	Current	Total		
Select ALL Po	wer Supplies on this battery set:						
	4009				0.2800		1.4620
				Sub Total	0.2800		1.4620
Additional Current Draws:							
	RUI Connected Periphera	Devices	s 0	x 0.0035	= 0.0000	x 0.0035	= 0.0000
	MAPNET/IDNet Device Address Communication	n Curren	t 0	x 0.000000	= 0.0000	x 0.000000	= 0.0000
				Sub Total	0.2800		1.4620
	Spare addressable point capacity	0%	0	x 0	= 0.0000	x 0	= 0.0000
				Total	0.2800		1.4620
	Standby Time =	24	Hrs	x 0.2800	= 6.7200	Standby Ah	
	Alarm Time =	5	Min	0.08333 x 1.462	= 0.1218	Alarm Ah	
	-				6.8418	-	
	Additional Spare Battery Capacity =	0%		+	0.0000	_	
					6.8418		
	Battery Discharge Factor =	20%		+	1.3684	_	
	Minimum Battery Required	2081-927	74 10AH (2:	x)	8.2102	_	
	Dettem: Cumuliad						

Battery Supplied 2081-9274 10AH (2x) * System Totals represent total system current requirements. Those currents may be distributed between multiple battery sets or power supplies as shown above.

NAC 1 4009 NAC VOLTAGE DROPS												PID	4606-9101	4906-9127	4906-9128	4906-9128
												Setting	15cd	15cd	30cd	75cd
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELE	ECTRICAL C	ODE (UNCOA	TED SOLID	COPPER WIRE) @ 75 Celsiı	us						Device Type		MC A/V	MC CEIL A/V	MC CEIL A/V
												Supv. Current	0.0650	0.0000	0.0000	0.0000
												Alarm Current	0.1400	0.0750	0.1320	0.2500
	Power	Panel	Plan	Dist. (D)	Wire	Wire Res.	Total	V. Drop	Volt	% Volt	Min Device	Max			1	1
NOTIFICATION CIRCUIT DESCRIPTION	Supply	Circuit	Ckt.	Feet	Gauge	/ Ft. (R)	Alarm (A)	(A*2D*R)	@ End	Drop	Voltage	Distance				
2ND FLOOR	4009	SIG1	V3	300	14ga	0.0031	1.277	2.352	17.148	12.06%	16vdc	446 Ft.	3	3	1	2

NOTE:

LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THAT THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOUR LOCAL JOHNSON CONTROLS DISTRICT OFFICE.

		Johnson WW	Controls	DISTRICT - 250 EAD CIVINC BLVD SLITTE 105	SERVICE: 919-279-6400 FAX: 919-259-6400 FAX: 919-255-3401
	HARNETT COUNTY DSS	UPFIT 2ND FLOOR		311 W CORNELIUS HARNETT B	LILLINGTON, NC 27546
ISSUE LOG: Revisions shown with A symbol	MARK DATE CAD CHK DESCRIPTION				
DI CI IS J FF SF	RAWN B HECKED SUE DA' DB #: ROJECT JOH (STEM: FIR HEET: CA	Y: BY: TE: NSON C E ALA	T PALCZ J SIMMC 7/23/24 2505814 24:65058 ONTROL ARM SY ATIONS EDULE	UK NS 95 11495 S © 202 (STEN S ANE S	

