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ABC\_VA\_Offices KC\_E201\_REV1.dwg  
PROJECT: VA Offices - Kansas City\_PW60833

	nCM PDT 10 Extended Range 360° Sensor-Ceiling Mount, Low Voltage, Dual Technology (PDT)
	nCM PDT 9 Standard Range 360° Sensor, Ceiling Mount, Low Voltage, Dual Technology (PDT)
	nCMB PDT 9 / FB3 Fixture mounted Small Range 360°, Low Voltage, Dual Technology (PDT)
	nPOD GPX Grafix WallPod, required power supply PS 150 included
	nPODM 2P DX [COLOR] 2 Channel On/Off Toggle With Dimming
	nPODM 4P DX [COLOR] 4 Channel On/Off Toggle With Dimming
	nPODM [COLOR] 1 Channel On/Off Toggle
	nPODM DX [COLOR] 1 Channel On/Off Toggle With Dimming
	nPP16 Power/Relay Pack: 16A 120/277 VAC
	nPP16 D Power/Relay Pack: 16A 120/277 VAC w/ 0-10VDC Dimming
	nPP16 D ER Relay Pack: 16A 120/277 VAC UL-924 Emergency Relay Pack w/ 0-10VDC Dimming
	nPS 80 nLight Power Supply 120/277 VAC, 80mA, CAT-5
	CM PDT 10 Extended Range 360° Sensor-Ceiling Mount, Low Voltage, Dual Technology (PDT)
	CM PDT 9 Standard Range 360° Sensor, Ceiling Mount, Low Voltage, Dual Technology (PDT)
	PP20 Power Pack-Relay Circuit Protection: 120/277 VAC

SENSOR FEATURE OPTIONS		WALL SWITCH/POD COLOR OPTIONS	
ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
ADC	AUTOMATIC DIMMING CONTROL	IV	IVORY
D	MANUAL DIMMING	GY	GREY
DX	MANUAL DIMMING CONTROL	WH	WHITE
DZ	DUAL ZONE	AL	ALMOND
LV	LOW VOLTAGE	SENSOR ACCESSORIES	
LT	LOW TEMP	NAME	DEFINITION
NL	NIGHT LIGHT	WV BR	WIDE VIEW CEILING MOUNTING BRACKET
P	PHOTOCELL	FB1	DEEP FIXTURE BRACKET
PDT	PASSIVE DUAL TECHNOLOGY	FB2	DEEP FIXTURE BRACKET WITH HARDWARE
RF	RADIO FREQUENCY		
V	VANDAL RESISTANT		
2P	2 POLE		
347	347 VOLT		
4	4 PORT		
8	8 PORT		
480	480 VOLT		

#### nLIGHT SYSTEM NOTES

##### Common Terminology

- Zone:** A group of devices in a room or area that are daisy-chained wired together with CAT-5(e) cabling and function together to control that particular space's lighting. Devices can be wired in any order. Power for devices and communication may be supplied locally from power/relay packs (nPP-16) and/or power supplies (nPS-150).
- Backbone:** The communication network consisting of Bridges (nBRG-1), Transceivers (nTXR-250), and a single Gateway (nGW) which interconnects nLight zones to the SensorView software (required for remote programming/status). Bridge and Transceiver devices also supply power for zones without local power/relay packs or power supplies.
- Bridge (nBRG-1):** A device used to hub several zones together. Bridges interconnect using with either CAT-5(e) with other Bridges, or a Gateway (nGW) to form a network backbone. Bridges also supply power to downstream zones that do not generate local power.
- Gateway (nGW):** The device in an nLight network that connects to the building's Ethernet (and eventually the computer running the SensorView software). One Gateway is needed per 400 devices. Requires an Ethernet drop.
- WallPod:** A term for any nLight toggle switch, dimmer switch, or scene controller. All WallPods have model numbers that start with "nPOD".

##### Design Notes

- One relay is needed per circuit to be controlled and can reside within sensors, WallPods, or Relay Packs. Power/Relay Packs (nPP-16) have been specified where load size can not be determined (as opposed to 800/1200W maximum rated relays co-located inside sensors or WallPods). Power Pack placement on drawings is for counting only; final placement is up to discretion of contractor/engineer. Please check counts to verify the number of relays needed to switch all desired loads.
- Bridges and sensors on drawings were placed with information provided at time of design. Additional Bridges and/or sensors may be required depending on building changes, final partition height/placement, furniture placement, equipment height/placement and shelving height/placement.
- The layout of the network backbone (Bridges and Gateways) has been placed in a separate tree diagram and not on the actual layout. Final placement of the Bridge(s) and Gateway(s) devices shall be at the contractor/engineer discretion.
- All devices have RJ-45 Female ports. Making CAT-5(e) cables with T568B Male terminations is required. It is imperative that all CAT-5 cables be tested with a LAN Cable Tester to verify proper terminations.
- Computer for hosting SensorView software provided by others.
- Sensors in electrical/mechanical locations need to be verified with authority having jurisdiction (NEC 110.26.D) "illumination. Illumination shall be provided for all working space about service equipment, switchboards, panel boards, or motor control centers installed indoors. Additional light outlets shall not be required where the work space is illuminated by an adjacent light source or as permitted by 201.70(A)(1). Exception No. 1, for switched receptacles. In electrical equipment rooms the illumination shall not be controlled by automatic means only." For more information regarding the nLight system or installation, go to [www.sensorswitch.com/nlight/docs](http://www.sensorswitch.com/nlight/docs).

##### SENSOR NOTES

- SENSORS IN ELECTRICAL/MECHANICAL LOCATIONS NEED TO BE VERIFIED WITH AUTHORITY HAVING JURISDICTION. REFER TO NEC 110.26.D.
  - "illumination. Illumination shall be provided for all working spaces about service equipment, switchboards, panelboards, or motor control centers installed indoors. Additional lighting outlets shall not be required where the work space is illuminated by an adjacent light source or as permitted by 210.70(A)(1). Exception No. 1, for switched receptacles. In electrical equipment rooms, the illumination shall not be controlled by automatic means only."
- ONE POWER PACK IS NEEDED PER CIRCUIT / ZONE TO BE CONTROLLED BY A MAXIMUM OF 14 LOW VOLTAGE SENSORS. POWER PACK PLACEMENT ON DRAWINGS IS FOR COUNTING ONLY. FINAL PLACEMENT OF POWER PACK IS UP TO CONTRACTOR/ENGINEER. PLEASE CHECK COUNTS TO VERIFY THE NUMBER OF POWER PACKS NEEDED TO MAKE A COMPLETE SYSTEM. THE MAXIMUM NUMBER OF POWER PACKS THAT CAN BE CONTROLLED BY A GROUP OF SENSORS IS 5. IF YOU HAVE MORE THEN 5 CIRCUITS CONTROLLING A SPACE YOU WILL EITHER HAVE TO BREAK UP THE SPACE INTO ZONES OR USE ONE POWER PACK PER LIGHTING CONTRACTOR TO PULL IN THE CIRCUITS.
- SENSOR PLACEMENT AND TYPES WERE PLACED WITH CURRENT PROJECT INFORMATION. ADDITIONAL SENSORS AND TYPES OF SENSORS MAY BE REQUIRED TO PROVIDE COMPLETE COVERAGE DEPENDING ON DRAWING CHANGES, EMS/BMS, FINAL PARTITION HEIGHT/PLACEMENT, FURNITURE PLACEMENT, EQUIPMENT HEIGHT/PLACEMENT AND SHELVING HEIGHT/PLACEMENT.
- CEILING MOUNTED EXTENDED RANGE 360° SENSORS: FOR MAXIMUM DISTANCE ROTATE TO SENSOR CLOCKWISE SO THAT THE SOWEN AXIS IS POSITIONED 7.5° OFF THE ENTRANCE AXIS. WHEN WALKING ACROSS A SENSOR'S BEAM, DETECTION WILL OCCUR AT APPROXIMATELY 28'. WHEN WALKING DIRECTLY INTO A SENSOR'S BEAM, DETECTION WILL OCCUR AT APPROXIMATELY 24'. (REFER TO CUT SHEET FOR PICTORIAL OF ALIGNMENT)
- SENSOR MASKING KITS MAY BE REQUIRED TO LIMIT COVERAGE DEPENDING ON YOUR REQUIREMENTS.



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**CENTRAL  
ARKANSAS VA  
HEALTH CARE  
SYSTEM**



## BASEMENT FLOOR PLAN-LIGHTING CONTROLS

SCALE: 1/8"=1'-0"

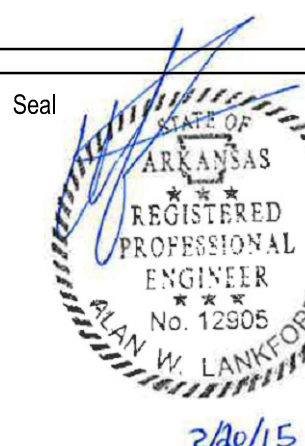
INFORMATION SHOWN FOR REFERENCE ONLY AND PROVIDED BY OTHERS/FACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY WITH THE FACTORY AND PROVIDE ANY ADDITIONAL ITEMS THAT MAYBE REQUIRED TO PROVIDED A COMPLETE OPERATIONAL SYSTEM.



Revision	Date
100% For Construction	02.20.15

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Drawing Title

**BASEMENT  
LIGHTING CONTROLS**

Approved: Project Director

Project Title

**BUILDING 65  
BUILDING DESIGN FOR LIGHTING  
IMPROVEMENT**

Location

V.A.M.C. NLR DIVISION

Date

February 20, 2015

Checked

GJF

Drawn

BCD

Project Number

VA101V-14C-0104

Building Number

65

Drawing Number

E201A