

	OCCUPANCY SENSOR							TIME CLOCK		
					PAR ⁻ OF		ES)			
ROOM TYPE	OCCUPANCY MODE (AUTO ON)	VACANCY MODE	DUAL TECHNOLOGY	OCCUPIED LEVEL (%)	TIME OF LAST DETECTED OCCUPANCY (MINUTES)	UNOCCUPIED DIM LEVEL(%)	OCCUPANCY TIME DELAY (MINUTES)	SCHEDULE ON TIME	SCHEDULE OFF TIME	SCHEDULE OVERRIDE SWITCH
BREAKROOMS/KITCHENS	X		X	100	7.5	10	10			
CLASSROOMS	X		X	50	7.5	10	10			
CONFERENCE ROOMS	Х		Х	50	7.5	10	10			
COPY ROOMS	Х		Х	100	7.5	10	10			
CORRIDORS/STAIRWELLS	Х			100	7.5	10	10			
EXTERIOR				100				DUSK	DAWN	
LABS	Х		Х	100	17.5	10	20			
MULTIPURPOSE ROOMS	Х		Х	50	7.5	10	10			
OPEN OFFICE AREAS > 300 SQ FT	Х		Х	100	7.5	10	10			
PARKING GARAGE	Х			100	10	10	12.5			
RESTAURANTS/STORES				100		10		TBD	TBD	X
RESTROOMS	Х		Х	100	7.5	10	10			
OFFICES < 300 SQ FT	Х		Х	50	7.5	10	10			
STORAGE ROOMS > 100 SQ FT	Х			100	7.5	10	10			
WAREHOUSES	X			100	10	50	12.5	TBD	TBD	

NOTES:

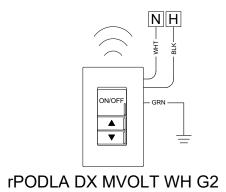
* 5 MINUTES BEFORE THE LIGHTING IS SCHEDULED TO TURN OFF, THE LIGHTS WILL TURN OFF FOR 1 SECOND AND THEN GO BACK TO IT'S PREVIOUS DIMMING LEVEL. THIS BLINK WARNING PREVENTS FALSE OFFS AND GIVES AUTHORIZED PERSONNEL A WARNING TO PRESS WALL SWITCH TO ACTIVATE A 2-HOUR OVERRIDE. OWNER TO VERIFY TIME SCHEDULES.

** AUTOMATIC SCHEDULING CONTROLS SHALL BE CAPABLE OF LIGHTING SETBACK CONTROL IN ACCORDANCE TO C405.2.6.2 FOR DECORATIVE FIXTURES AND <u>C405.6.2.3</u> FOR NON-DECORATIVE FIXTURES. *** LIGHTING IN OPEN OFFICE AREAS GREATER THAN 300 SQUARE FEET, LIGHTING SHALL BE CONTROLLED SEPARATELY IN CONTROL ZONES NOT GREATER THAN 600 SQUARE. THE FIXTURES IN THE OCCUPIED CONTROL ZONES WILL BE ON AT 100% FULL BRIGHT AND THE FIXTURES IN THE UNOCCUPIED (AFTER 7.5 MINUTES OF NO DETECTED MOVEMENT) CONTROL ZONES WILL BE AT 20% FULL BRIGHT. IF ALL AREAS ARE UNOCCUPIED (AFTER 10 MINUTES OF NO DETECTED MOVEMENT IN ALL CONTROL ZONES) THEN THE LIGHTS WILL TURN OFF.

2 SEQUENCE OF OPERATION / BASIS OF DESIGN TABLE

2VTL4 rES7PDT PRIMARY DAYLIGHT ZONE

2VTL4 rES7PDT GENERAL LIGHTING ZONE

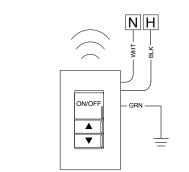


OPTION FOR NETWORKED SYSTEM. WIRELESS COMMUNICATION TO NECYD ANTENNA SHOWN ON DETAIL (1)

4 LARGE OFFICE (LESS THAN 300 SQUARE FEET) DETAIL

2VTL4 rES7PDT PRIMARY DAYLIGHT ZONE

 \bigcirc 2VTL4 rES7PDT GENERAL LIGHTING ZONE

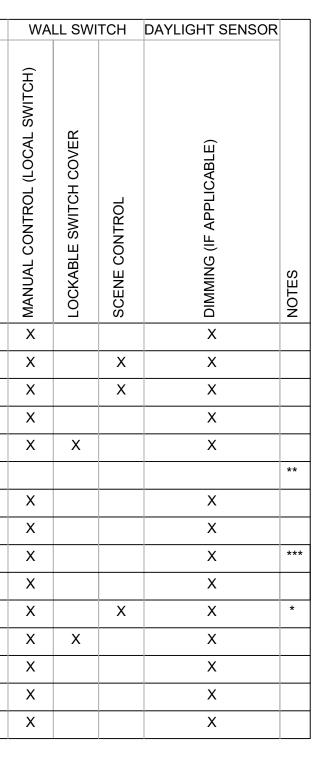


rPODLA DX MVOLT WH G2

OPTION FOR NETWORKED SYSTEM. WIRELESS COMMUNICATION TO NECYD ANTENNA SHOWN

ON DETAIL 1

6 CONFERENCE DETAIL N.T.S.





OPTION FOR NETWORKED SYSTEM. WIRELESS COMMUNICATION TO NECYD ANTENNA SHOWN ON DETAIL (1)

GENERAL NOTES:

- 1. DETAILS AND DESIGN IS BASED ON AN nLIGHT LIGHTING CONTROLS SYSTEM.
- 2. DETAILS ARE DIAGRAMMATIC AND FOR REFERENCE OF SYSTEM AND ROOM TYPE REQUIREMENTS TO MEET BASIS OF DESIGN. REFER TO MANUFACTURERS SHOP DRAWINGS FOR QUANTITIES AND DEVICES USED FOR EACH SPACE AND NETWORK.
- 3. LIGHTING CONTROL SUBMITTALS FOR NETWORKED SYSTEM SHALL BE PROVIDED BY THE MANUFACTURER OR FACTORY REPRESENATIVE AND SHALL INCLUDE THE FOLLOWING DOCUMENTS(NOT LIMITED TO FOLLOWING): 3.1. SHOP DRAWINGS SHOWING QUANTITY AND LOCATION OF
- ALL DEVICES. 3.2. STANDALONE/NETWORK SINGLE LINE DIAGRAM. 3.3. BASIS OF DESIGN PROGRAMMING OPERATION FOR EACH ROOM TYPE. 3.4. DEVICE CUTSHEETS.
- 4. MANUFACTURER OR FACTORY REPRESENTATIVE TO INCLUDE STARTUP AND COMMISSIONING OF THE LIGHTING CONTROL SYSTEM. MUST INCLUDE A SITE VISIT FOR THE FOLLOWING: 4.1. A PRE-CONSTRUCTION MEETING TO CONFIRM DESIGN AND
- FIELD INSTALLATION REQUIREMENTS. 4.2. PROGRAMMING AND COMMISSIONING OF THE LIGHTING CONTROL SYSTEM TO MEET THE BASIS OF DESIGN AND IECC REQUIREMENTS. 4.3. MAINTENANCE / OWNER WALK THROUGH FOR MAKING FINAL
- ADJUSTMENTS TO PROGRAMMING. 5. CONTRACTOR SHALL FURNISH AND INSTALL ALL LIGHTING CONTROL DEVICES, CABLES, ACCESSORIES AS REQUIRED BY MANUFACTURER'S RECOMMENDATION TO PROVIDE A COMPLETE AND FULLY FUNCTIONAL COMPLIANT IECC SYSTEM.
- 6. CONTRACTOR SHALL TEST ALL LOW VOLTAGE NETWORK CABLES IN THE FIELD TO THE VERIFICATION AND REQUIREMENTS BY THE MANUFACTURER PRIOR TO SYSTEM STARTUP.
- 7. ALL DEVICES SHALL BE MOUNTED AND INSTALLED IN ACCESSIBLE CEILING LOCATIONS. CONTRACTOR WILL VERIFY BEST FIT LOCATIONS IN THE FIELD.
- 8. CONTRACTOR TO VERIFY COMPATIBILITY BETWEEN DIMMING POWERPACKS AND INSTALLED FIXTURES.
- 9. CONTACT HILA FOR COMPLETE nLIGHT LIGHTING CONTROLS BOM, CONTROLS@HI-LTG.COM - PHONE # 808-683-9344.

IECC 2018 COMPLIANCE:

- 1. OCCUPANT SENSOR CONTROLS, SECTION C405.2.1
- 2. TIME-SWITCH CONTROLS, SECTION C405.2.2. 3. DAYLIGHT-RESPONSIVE CONTROLS, SECTION C405.2.3.
- 4. SPECIFIC APPLICATION CONTROLS, SECTION C405.2.4.
- 5. MANUAL CONTROLS, SECTION C405.2.5.
- 6. EXTERIOR LIGHTING CONTROLS, SECTION C405.2.6.
- 7. ENHANCED DIGITAL LIGHTING CONTROLS, SECTION C406.4

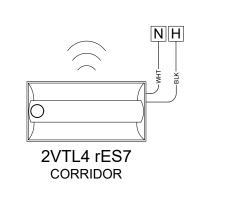
BOM, CONTROLS@HI-LTG.COM - PHONE # 808-683-9344.

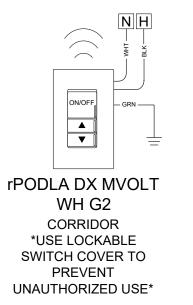
8. FUNCTIONAL TESTING OF LIGHTING CONTROLS, SECTION C408.3 9. CONTACT HILA FOR COMPLETE nLIGHT LIGHTING CONTROLS

nLIGHT REST API SPECIFICATIONS:

ACUITY BRANDS SYSTEM - nLIGHT CONTROLLER SHALL BE COMPATIBLE WITH REST API OVER AN ENCRYPTED HTTPS CONNECTION. READ AND WRITE CONNECTION SHALL BE SECURABLE WITH A USERNAME/PASSWORD PAIR. PASSWORDS TO HAVE ADJUSTABLE COMPLEXITY TO COMPLY WITH CUSTOMER PASSWORD REQUIREMENTS

- 1. WRITE ACCESS OF END DEVICES CONNECTED TO THE SYSTEM CONTROLLER SHALL BE MADE AVAILABLE THROUGH: 1.1. WRITE ACCESS SHALL INCLUDE COMMAND OF
- DEVICE-RELAY-STATE, DEVICE-DIM-LEVEL, GROUP-RELAY-STATE, AND GROUP-DIM-LEVEL. 1.2. GROUPING OF DEVICES FOR GROUP-RELAY-STATE AND
- GROUP-DIM-LEVEL WRITE ACCESS SHALL BE AUTOMATICALLY GENERATED BY THE SYSTEM CONTROLLER AND SHALL NOT REQUIRE CREATION BY THIRD PARTY SYSTEMS.
- 1.3. GROUP-RELAY-STATE AND GROUP-DIM-LEVEL RESPONSE TO REST API SHALL BE AVAILABLE WITHOUT REQUIRING MULTIPLE POST COMMANDS. 2. READ ACCESS OF END DEVICES (EMBEDDED nLIGHT FIXTURES) CONNECTED TO THE SYSTEM CONTROLLER SHALL BE MADE
- AVAILABLE THROUGH: 2.1. READ ACCESS SHALL INCLUDE DEVICE-ONLINE/OFFLINE STATUS, DEVICE-OCCUPANCY-STATE, GROUP-OCCUPANCY-STATE, MEASURED-LIGHT-LEVEL, DEVICE-RELAY-STATE, DEVICE-DIM-LEVEL, GROUP-RELAY-STATE, AND GROUP-DIM-LEVEL
- 2.2. GROUP OF DEVICES FOR GROUP-OCCUPANCY-STATE, GROUP-RELAY-STATE, AND GROUP-DIM-LEVEL READ ACCESS SHALL BE AUTOMATICALLY GENERATED BY THE SYSTEM CONTROLLER AND SHALL NOT REQUIRE CREATION BY THIRD PARTY SYSTEMS.
- 3. CONTACT HILA SETUP OF REST API, CONTROLS@HI-LTG.COM -PHONE # 808-683-9344.





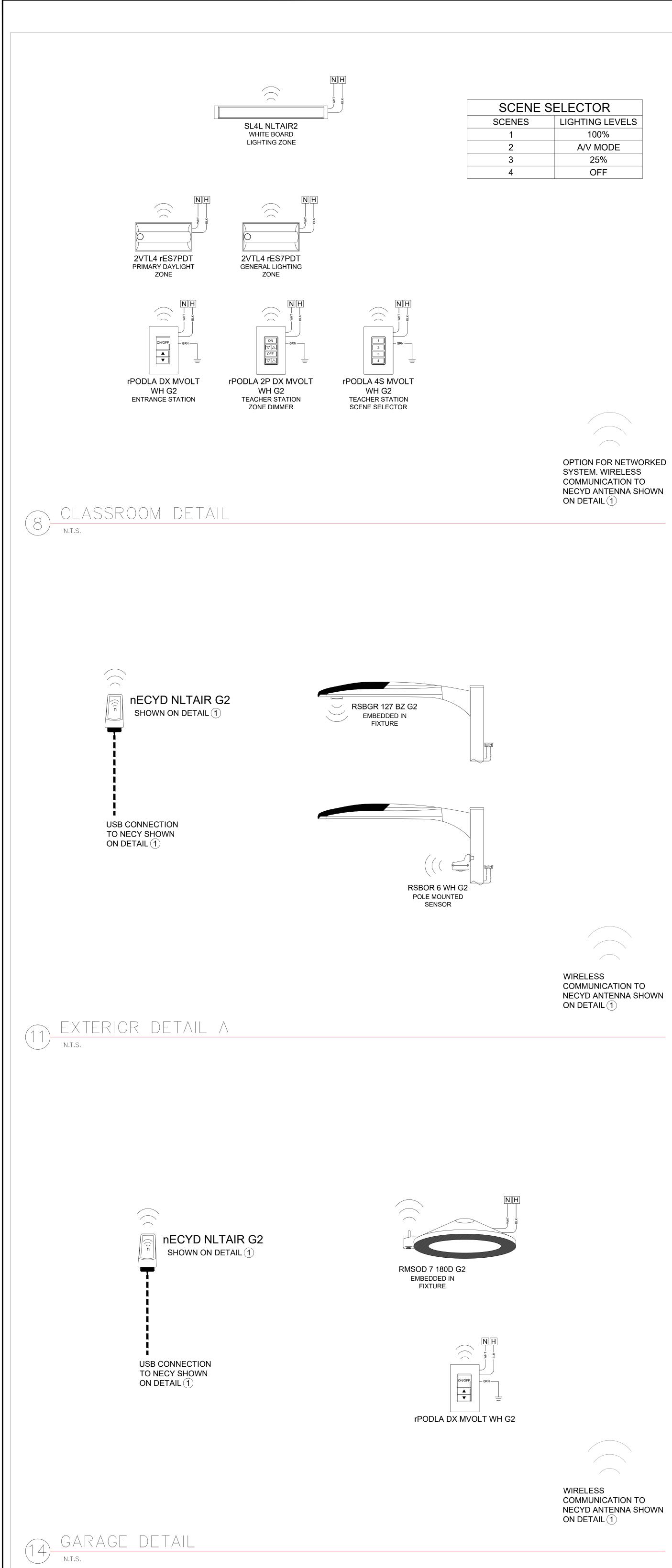


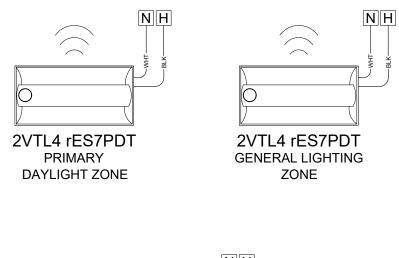
OPTION FOR NETWORKED SYSTEM. WIRELESS COMMUNICATION TO NECYD ANTENNA SHOWN ON DETAIL 1

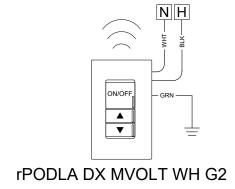
LIGHTI	NG CONTROLS LEGEND AND DESCRIP		ы С
OS	EXTENDED RANGE 360° SENSOR-CEILING MOUNT, LOV PASSIVE DUAL TECHNOLOGY (PDT) DETECTION TECHNOLOGY SHALL BE SELECTABLE AS PIR/MICROPHONICS/BOTH OS - rCMS PDT 10 G2		O CIAT
DS	AUTOMATIC DIMMING CONTROL PHOTOCELL- CEILING LOW VOLTAGE DS - rCMS PDT 10 G2	B MOUNT,	A S S
DPa	16 AMP (120/227V) POWER/RELAY PACK WITH 0-10V DIM CONTROL, CHASE NIPPLE MOUNTING DP - rPP20 D 24V EFP G2 SUBSCRIPT REFERENCES CIRCUIT/ZONE OF CONTROL		
PLa	20 AMP (120V) RELAY PACK FOR PLUG LOAD CONTROL NIPPLE MOUNTING PL - rPP20 24V G2	L, CHASE	
PCDa	SUBSCRIPT REFERENCES CIRCUIT/ZONE OF CONTROL 16 AMP (120/227V) POWER/RELAY PACK PHASE DIMMIN CONTROL, CHASE NIPPLE MOUNTING PCD - rPP PCD EFP G2		H A
-S1 a	SUBSCRIPT REFERENCES CIRCUIT/ZONE OF CONTROL LOW VOLTAGE ON/OFF TOGGLE SWITCH WITH DIMMIN 1-ZONE = S1 - rPODLA DX MVOLT XX G2		
⊣S2] a,b -SS2	2-ZONE = S2 - rPODLA 2P DX MVOLT XX G2 SUBSCRIPT REFERENCES ZONE OF CONTROL LOW VOLTAGE SCENE SELECTOR WITH DIMMING 2-SCENE = SS2 - rPODLA 2S DX MVOLT XX G2		
- <mark>SS4</mark>	4-SCENE = SS4 - rPODLA 4S DX MVOLT XX G2 SUBSCRIPT REFERENCES ZONE OF CONTROL LOW VOLTAGE GRAPHIC TOUCHSCREEN CONTROLLEF	R, INCLUDES	
-GFX a	16-ZONES AND 16-SCENES WITH DIMMING GFXX - nPOD TOUCH XX SUBSCRIPT REFERENCES ZONE OF CONTROL		
	G MANAGEMENT SYSTEMS INTEGRATION		
1. BACne	CATIONS: et TESTING LABORATORIES (BTL) LISTED AS A BACnet ING CONTROLLER (B-BC).		
ALLO LEVEL	NAL AUTOMATIC DEMAND RESPONSE CLIENT OPTION WS ACTIVATION OF CONFIGURABLE LOAD SHED DIMMING S THROUGH AN OpenADR 2.0a VIRTUAL END NODE. IRES OUTBOUND IP CONNECTION TO UTILITY DRAS.	3	
3. ENHA 3.1. H 3.2. U	NCED SECURITY PROVIDED BY BOTH: TTPS SERVER .S. GOVERNMENT SECURITY STANDARD OF FEDERAL		
14 4. THE II	IFORMATION PROCESSING STANDARD (FIPS) PUBLICATIO 40-2, LEVEL 1, INSIDE (VALIDATION CERTIFICATE PENDING INSTALLING CONTRACTOR WILL BE RESPONSIBLE FOR TH DWING WHEN INTEGRATING LIGHTING CONTROL SYSTEM	Э). Е	
TO T⊢ 4.1. P C 4.2. T	IE BUILDING MANAGEMENT SYSTEM: ROVIDING A PHYSICAL CONNECTION FROM LIGHTING ONTROL SYSTEM TO BMS VIA BACnet I/P. O COORDINATE WITH THE BMS INSTALLER ON SPECIAL		
L/ C S 4.3. T	ABELING CONFIGURATIONS THAT THE LIGHTING ONTROLS PROGRAMMER WILL NEED TO FOLLOW FOR EAMLESS INTEGRATION OF THE TWO SYSTEMS. O COORDINATE ONSITE MEETING WITH LIGHTING ONTROLS PROGRAMMER & BMS/CONTROLS CONTRACTO)R	
5. CONT	ONTROLS PROGRAMMER & BMS/CONTROLS CONTRACTO ACT HILA FOR FOR INTEGRATION WITH BMS, ROLS@HI-LTG.COM - PHONE # 808-683-9344.		
<u>SYSTEM</u> 120.8(h):	OPERATIONS TRAINING OPTIONS, PER SECTIO	N	
1. 2-HOU	IR ONSITE OR REMOTE TRAINING. IN PERSON OR REMOTE TRAINING @ HILA, AT CUSTOME	R	
LOCA 3. VIDEC	TION, OR VIDEOCONFERENCING SOFTWARE. TRAINING GIVEN TO EVERYONE WHO PARTICIPATES IN DAY IN PERSON OR REMOTE TRAINING.		Ш _щ
	ACT HILA FOR TRAINING, CONTROLS@HI-LTG.COM - PHOI 683-9344.	NE	
GRAPHIC	CVISUALIZATION FLOORPLAN INTERFACES		T NAME (PROVINCE)
THAT	EM SHALL PROVIDE WEB-BASED VISUALIZATION INTERFA DISPLAYS GRAPHICAL FLOORPLANS. HICAL FLOORPLAN SHALL OFFER THE FOLLOWING TYPES		
OF SY 2.1. FI B	STEM VISUALIZATION: ULL DEVICE OPTIONS - A MASTER GRAPHIC OF ENTIRE UILDING, BY FLOOR, SHOWING EACH CONTROL DEVICE		PROJEC Y, STATE
	ISTALLED IN THE PROJECT WITH ZONES OUTLINE. THIS HALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING CONTROLS EMBEDDED LIGHT FIXTURES, CONTROLS DEVICES NOT EMBEDDED IN THE FIXTURES, DAYLIGHT SENSORS, OCCUPANCY SENSORS, WALL		
	SWITCH/DIMMERS, SCENE CONTROLLERS, NETWORK RELAYS, NETWORK BRIDGES, CENTRALIZED SYSTEM CONTROLLERS, WIRE RELAY PANELS, AND GROUP OUTLINES.		C C
В	ROUP ONLY OPTION - A MASTER GRAPHIC OF THE ENTIR UILDING, BY FLOOR, SHOWING ONLY CONTROL GROUPS UTLINED.	E	
A	LLOW FOR PAN AND ZOOM COMMANDS SO SMALLER REAS CAN BY DISPLAYED ON A LARGER SCALE SIMPLY B ANNING AND ZOOMING EACH FLOOR'S MASTER GRAPHIC		
	MOUSE CLICK ON ANY CONTROL DEVICE SHALL DISPLAY HE FOLLOWING INFORMATION (AS APPLICABLE): THE DEVICE CATALOG NUMBER, THE DEVICE NAME AN CUSTOM LABEL, DEVICE DIAGNOSTIC INFORMATION, INFORMATION ABOUT THE DEVICE STATUS OR		
2.5. C	CURRENT CONFIGURATION AVAILABLE WITH AN ADDITIONAL MOUSE CLICK		
S T	TATUSES AND OVERRIDING DIM LEVELS, HEAT MAP HOWING DIM LEVEL OR OCCUPANCY, CALLOUTS, OGGLES, AND WEATHER.		
M 3. CONT	EATURES INCLUDING SYSTEM SCHEDULING, ALARM ONITORING, REPORT CUSTOMIZATION, AND PLAYBACK. ACT HILA FOR GRAPHIC VISUALIZATION FLOORPLAN FACES, CONTROLS@HI-LTG.COM - PHONE # 808-683-9344	ł.	
			TAL
NH			PE: SUBMIT
MHT			DRAWING TYPE: DL LAYOUT \ SUE
BLWP4 rES7 STAIRWELL			DRAWING TYPE: CONTROL LAYOUT \ SUBMITTAL
			CON
WHT A			
			REV DATE
PODLA DX MVOLT WH G2 STAIRWELL			
USE LOCKABLE SWITCH COVER TO PREVENT UNAUTHORIZED USE			
		OPTION FOR NETWORKED	Date: XX/XX/2015 Scale: NOT TO SCALE
		SYSTEM. WIRELESS COMMUNICATION TO NECYD ANTENNA SHOWN	Drawn By: CNC Quote #: XXXXX
		ON DETAIL 1	DWG Ref:

DETAILS

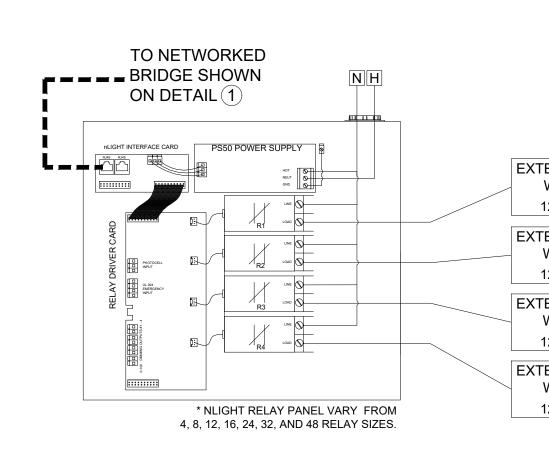
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 \bigcirc nECYD NLTAIR G2 SHOWN ON DETAIL (1) USB CONNECTION TO NECY SHOWN ON DETAIL 1

OPTION FOR NETWORKED SYSTEM. WIRELESS COMMUNICATION TO NECYD ANTENNA SHOWN ON DETAIL 1

EXTERIOR LIGHTING FIXTURES W/O SENSORS - ZONE 1 120/277VAC 0-10V DIMMING EXTERIOR LIGHTING FIXTURES W/O SENSORS - ZONE 2 120/277VAC 0-10V DIMMING EXTERIOR LIGHTING FIXTURES W/O SENSORS - ZONE 3 120/277VAC 0-10V DIMMING EXTERIOR LIGHTING FIXTURES W/O SENSORS - ZONE 4 -N 120/277VAC 0-10V DIMMING



