

Network Diagrams

Autani Mesh Network Diagram

Autani Manager Network Connectivity Diagram

Autani Tier 3 - Energy Center Topology Diagram

Typical Riser Diagram Using KPA Tier 3 -Energy Center Platform

Multiple Autani Managers Network Topography Diagram

EnOcean Device Network Layout Diagram

Small Office/Conference Fixture Control (Single Zone)

PPA102S.C1 6A Line Voltage Bluetooth Fixture Controller +IFS105E.A0 Integrated Round 12V Low Bay Eco Sensor + WP1013.A0 (3 Button) Battery-Powered Bluetooth Wall Switch + WF20R.A0 20A Plug Load Bluetooth Controller

IWS102.A0 Line Voltage Occ/Vacancy Sensor Bluetooth Wall Switch + WF20R.A0 20A Plug Load Bluetooth Controller

Large Office/Conference Fixture Control (Two + Zones)

PPA102S.C1 6A Line Voltage Bluetooth Fixture Controller + IFS105E.A0 Integrated Round 12V Low Bay Eco Sensor+ WP1013.A0 (3 Button) Battery-Powered Bluetooth Wall Switch + WF20R.A0 20A Plug Load Bluetooth Controller

Large Office/Conference Zone Control (Single Zone)

PPA104S.B1 Line Voltage 20A Bluetooth Zone Control+ EFS107E.A0 12V Dual-Tech Ceiling Eco Sensor + RTP - Tee Adaptor + WP1013.A0 (3 Button) Battery-Powered Bluetooth Wall Switch

Large Office/Conference Zone Control (Two + Zones)

PPA104S.B1 Line Voltage 20A Bluetooth Zone Control + RTP - Tee Adaptor + EFS107E.A0 12V Dual-Tech Ceiling Eco Sensor + WP1013.A0 (3 Button) Battery-Powered Bluetooth Wall Switch + WF20R.A0 20A Plug Load Bluetooth Controller

High Bay Lighting Control

EFS104.B1 External Line Voltage High Bay Sensor + WP1013.A0 (3 Button) Battery-Powered Bluetooth Wall Switch

Outdoor Lighting Control

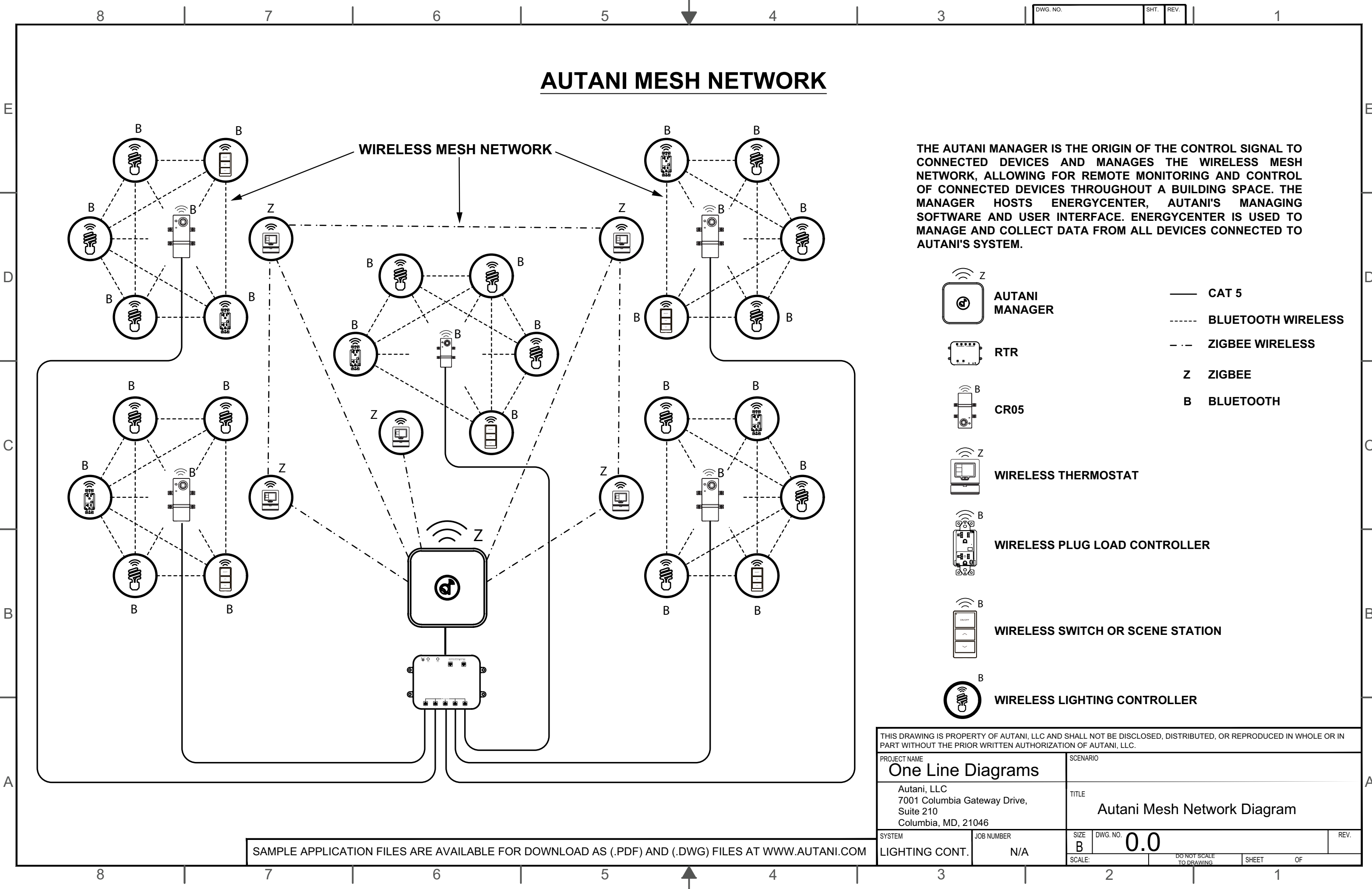
EFS106-AUX-W.B2 Plug and Play High Bay Long-Range Sensor + WSC01

Emergency - Hallway

PPA109S.B1 UL924 Emergency Lighting Controller + PPA104S.B1 Line Voltage 20A Bluetooth Zone Control+ RTP + EFS107E.A0 12V Dual-Tech Ceiling Eco Sensor + WP1013.A0 (3 Button) Battery-Powered Bluetooth Wall Switch


HVAC

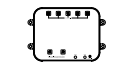
HVAC Controls Sample

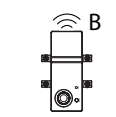



AUTANI MESH NETWORK

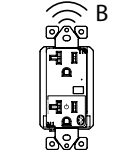
THE AUTANI MANAGER IS THE ORIGIN OF THE CONTROL SIGNAL TO CONNECTED DEVICES AND MANAGES THE WIRELESS MESH NETWORK, ALLOWING FOR REMOTE MONITORING AND CONTROL OF CONNECTED DEVICES THROUGHOUT A BUILDING SPACE. THE MANAGER HOSTS ENERGYCENTER, AUTANI'S MANAGING SOFTWARE AND USER INTERFACE. ENERGYCENTER IS USED TO MANAGE AND COLLECT DATA FROM ALL DEVICES CONNECTED TO AUTANI'S SYSTEM.

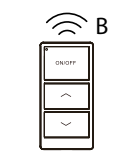
**AUTANI MANAGER**


**RTR**


**CR05**


**WIRELESS THERMOSTAT**


**WIRELESS PLUG LOAD CONTROLLER**

**WIRELESS SWITCH OR SCENE STATION**

**WIRELESS LIGHTING CONTROLLER**

**CAT 5**

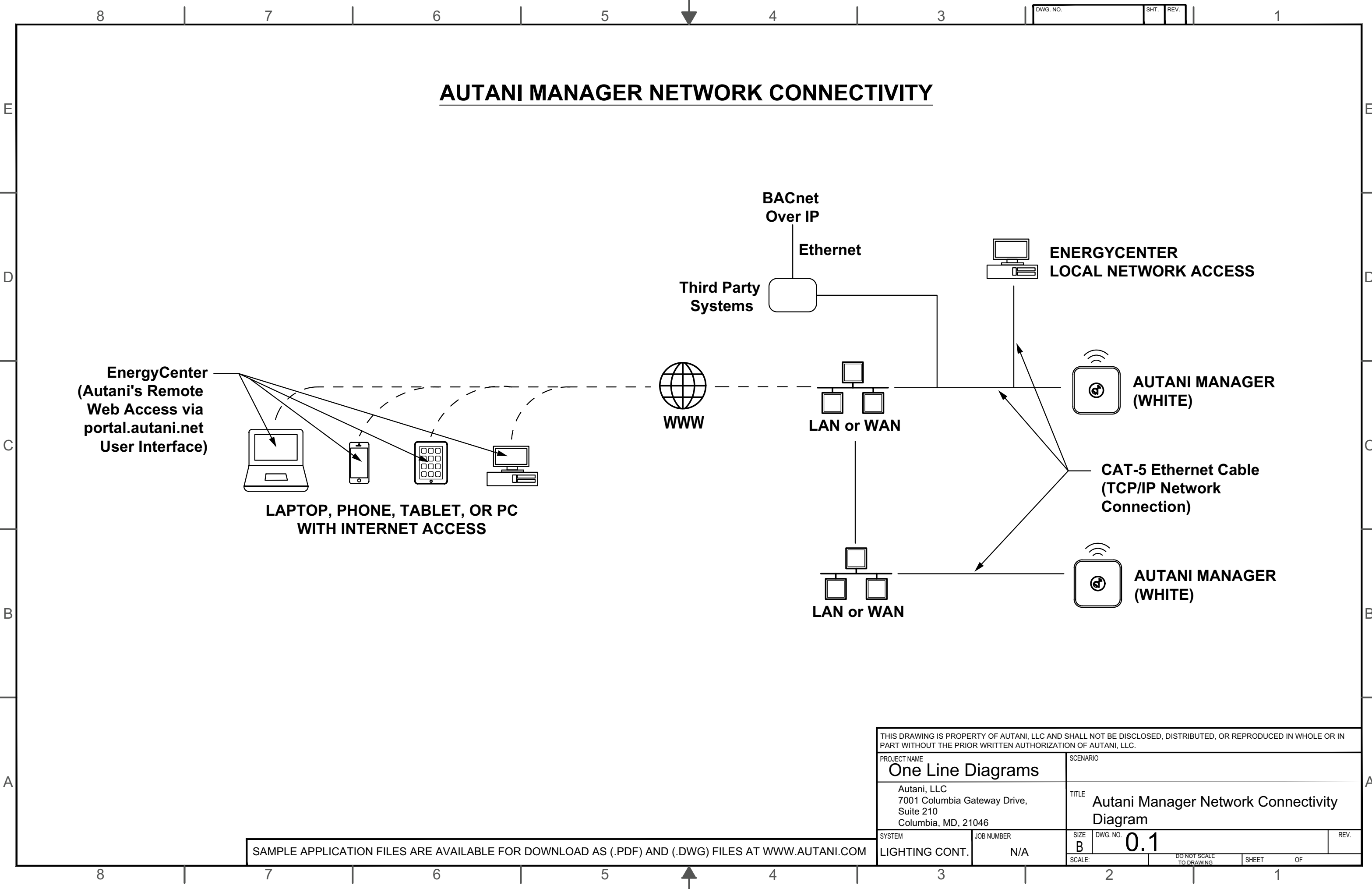
**BLUETOOTH WIRELESS**

**ZIGBEE WIRELESS**

Z **ZIGBEE**

B **BLUETOOTH**

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PROJECT NAME			SCENARIO		
One Line Diagrams					
Autani, LLC 7001 Columbia Gateway Drive, Suite 210 Columbia, MD, 21046			TITLE		
			Autani Mesh Network Diagram		
SYSTEM		JOB NUMBER		SIZE	DWG. NO.
LIGHTING CONT.		N/A		B	0.0
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				DO NOT SCALE TO DRAWING	
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AUTANI MANAGER NETWORK CONNECTIVITY

EnergyCenter
(Autani's Remote
Web Access via
portal.autani.net
User Interface)

LAPTOP, PHONE, TABLET, OR PC
WITH INTERNET ACCESS



WWW

BACnet
Over IP

Ethernet

Third Party
Systems

LAN or WAN

LAN or WAN



ENERGYCENTER
LOCAL NETWORK ACCESS



AUTANI MANAGER
(WHITE)



AUTANI MANAGER
(WHITE)

CAT-5 Ethernet Cable
(TCP/IP Network
Connection)

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PROJECT NAME
One Line Diagrams

Autani, LLC
7001 Columbia Gateway Drive,
Suite 210
Columbia, MD, 21046

SYSTEM
LIGHTING CONT.

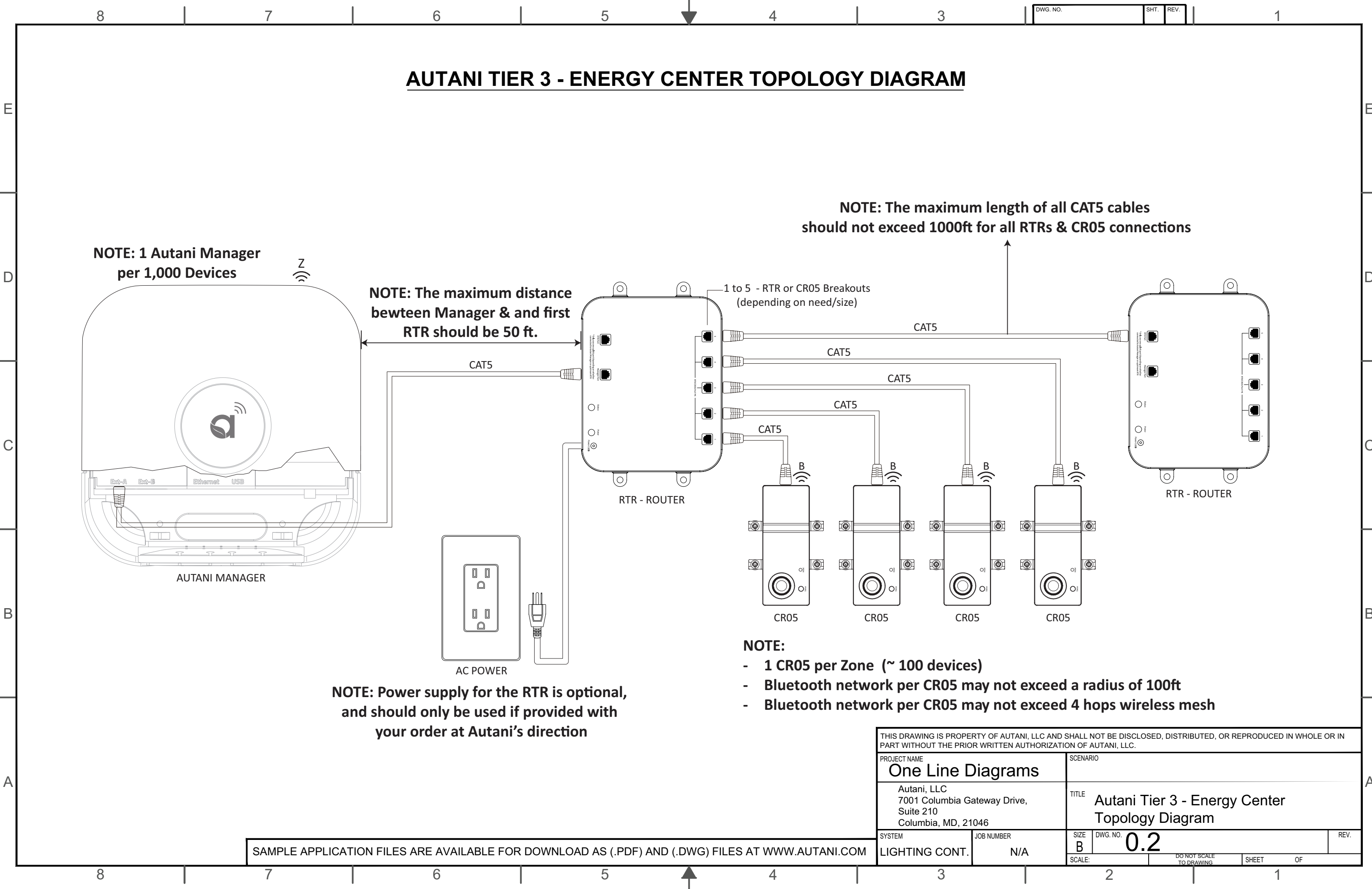
SCENARIO

TITLE
**Autani Manager Network Connectivity
Diagram**

SIZE
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DWG. NO.
0.1
REV.

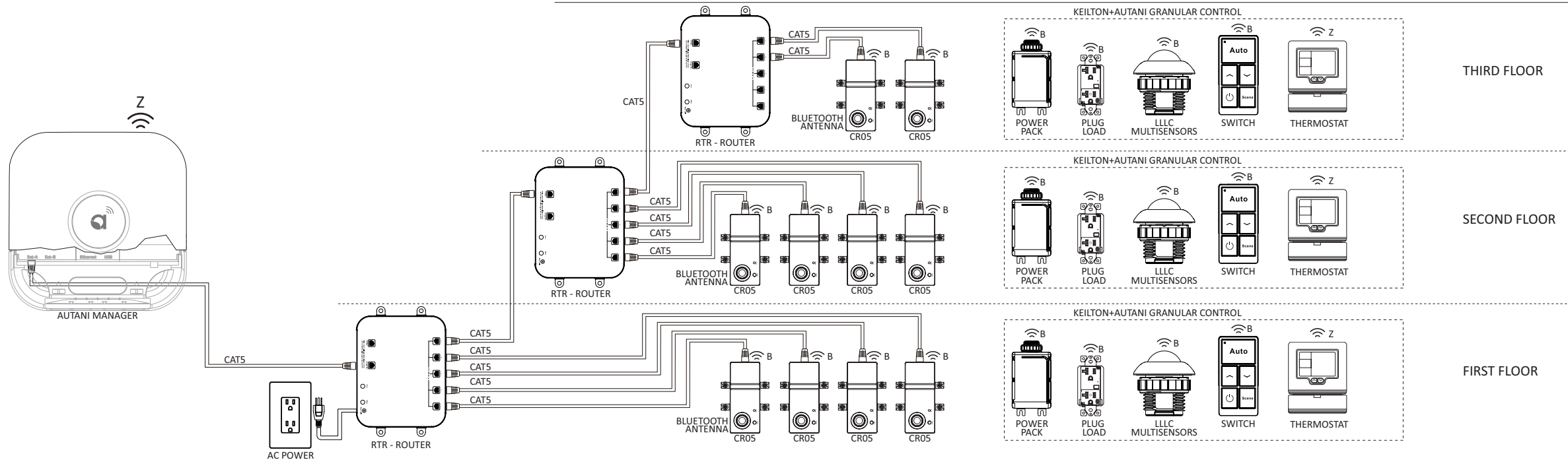
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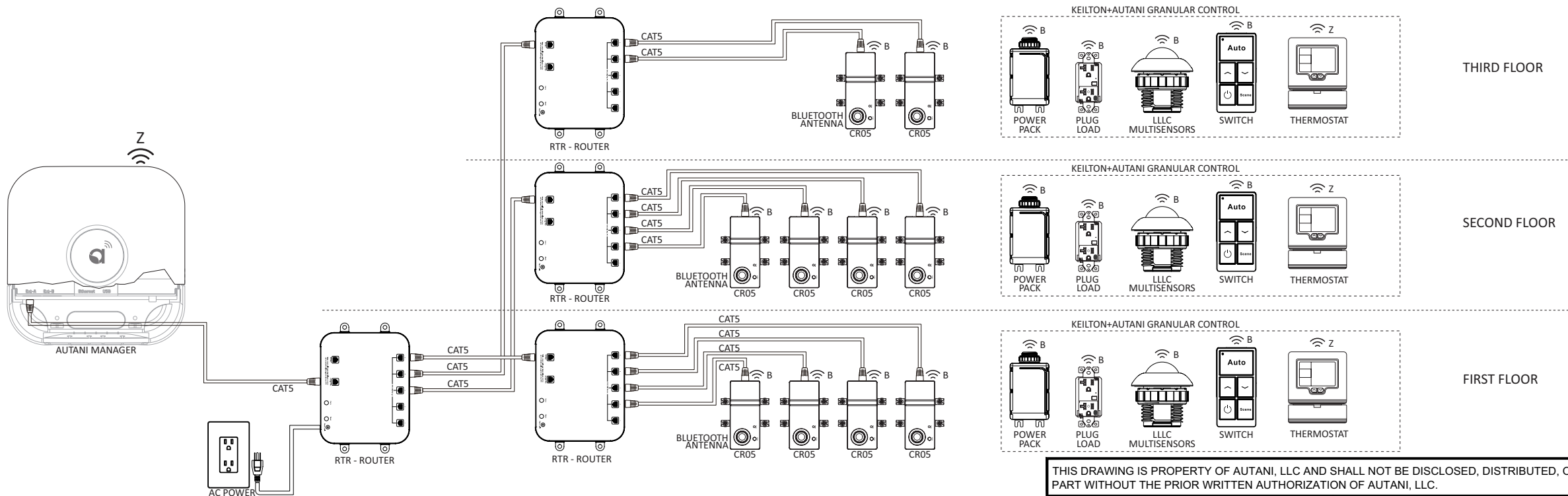


TYPICAL RISER DIAGRAM USING KPA TIER 3 - ENERGY CENTER PLATFORM

DAISY CHAIN



HOME RUN



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PROJECT NAME

One Line Diagrams

Autani, LLC
7001 Columbia Gateway Drive,
Suite 210
Columbia, MD, 21046

SYSTEM

LIGHTING CONT.

JOB NUMBER

N/A

SCENARIO

TITLE

**Typical Riser Diagram Using KPA
Tier 3 -Energy Center Platform**

SIZE

B

DWG. NO.

0.3

REV.

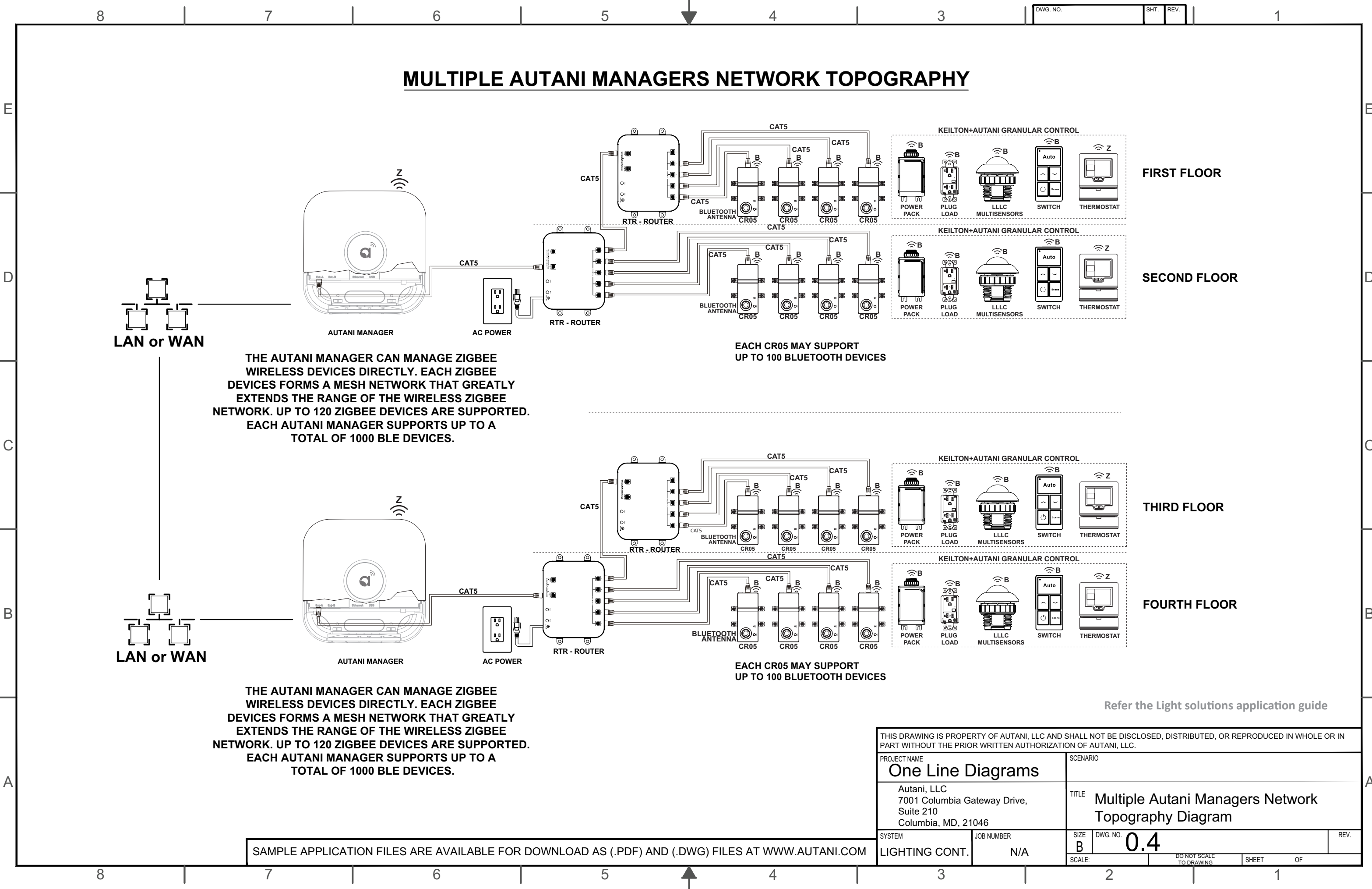
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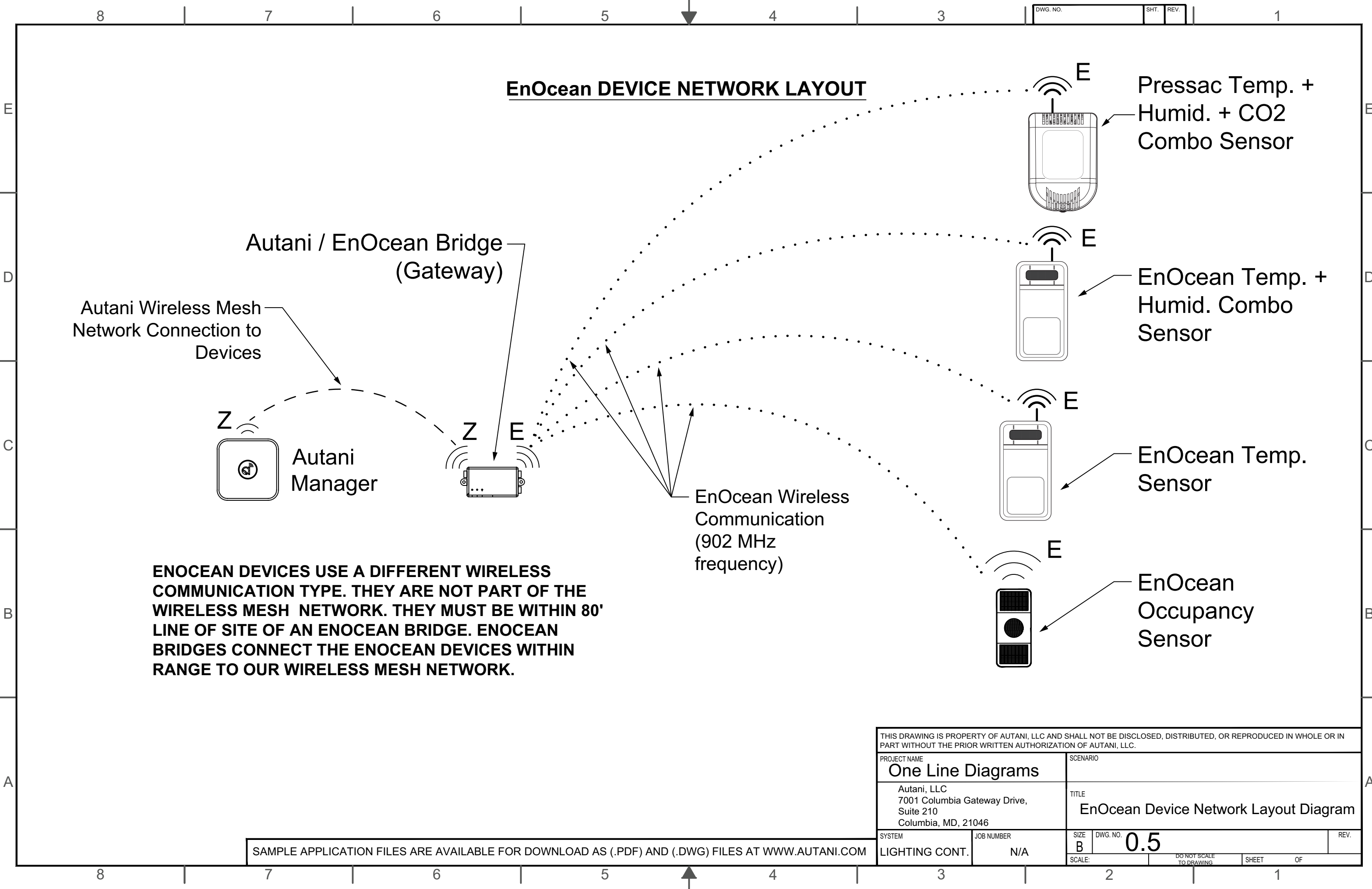


THE AUTANI MANAGER CAN MANAGE ZIGBEE WIRELESS DEVICES DIRECTLY. EACH ZIGBEE DEVICES FORMS A MESH NETWORK THAT GREATLY EXTENDS THE RANGE OF THE WIRELESS ZIGBEE NETWORK. UP TO 120 ZIGBEE DEVICES ARE SUPPORTED. EACH AUTANI MANAGER SUPPORTS UP TO A TOTAL OF 1000 BLE DEVICES.

EACH CR05 MAY SUPPORT UP TO 100 BLUETOOTH DEVICES

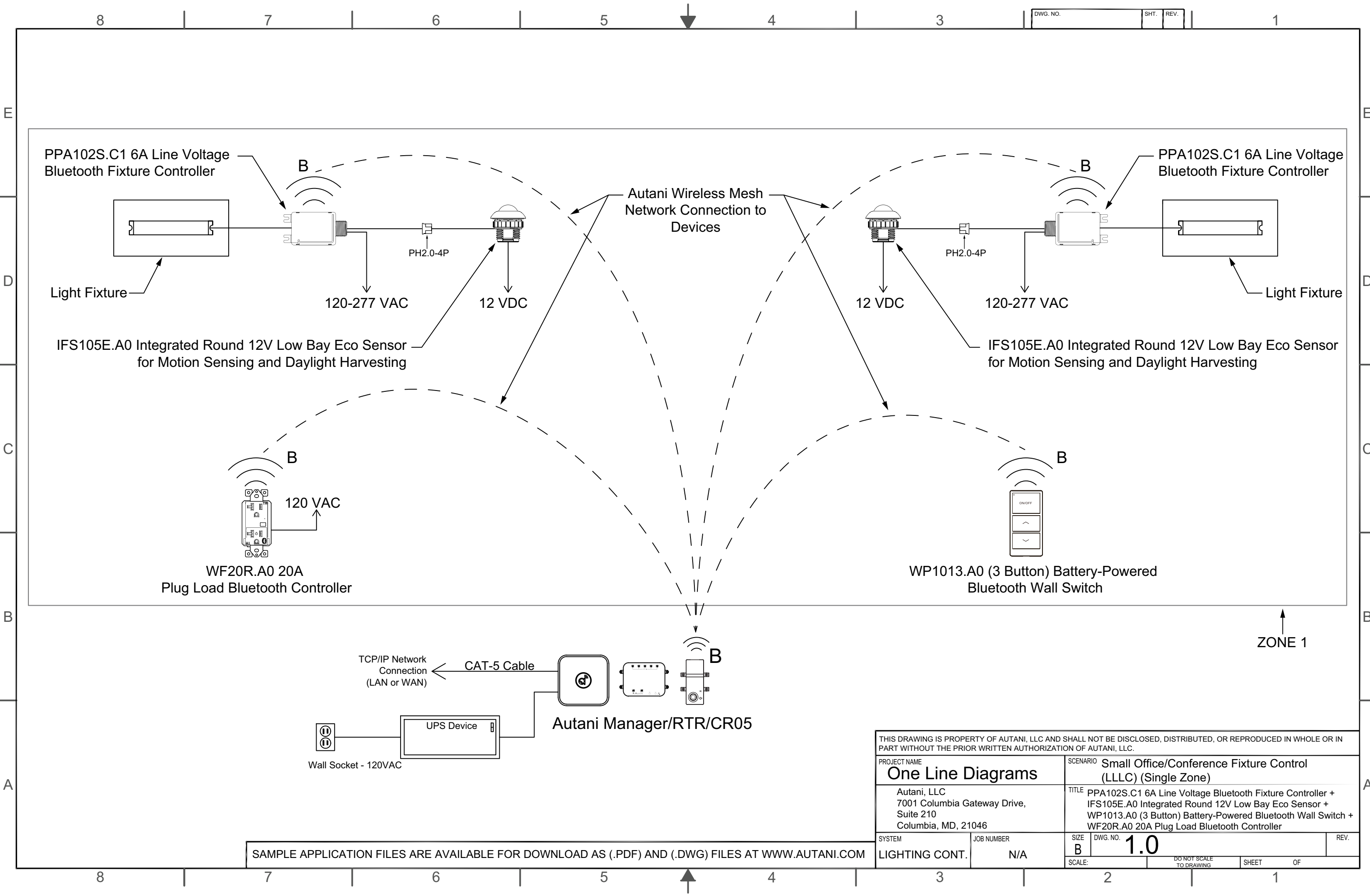
EACH CR05 MAY SUPPORT UP TO 100 BLUETOOTH DEVICES

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PROJECT NAME			SCENARIO		
One Line Diagrams					
Autani, LLC 7001 Columbia Gateway Drive, Suite 210 Columbia, MD, 21046			TITLE Multiple Autani Managers Network Topography Diagram		
SYSTEM		JOB NUMBER		SIZE	DWG. NO.
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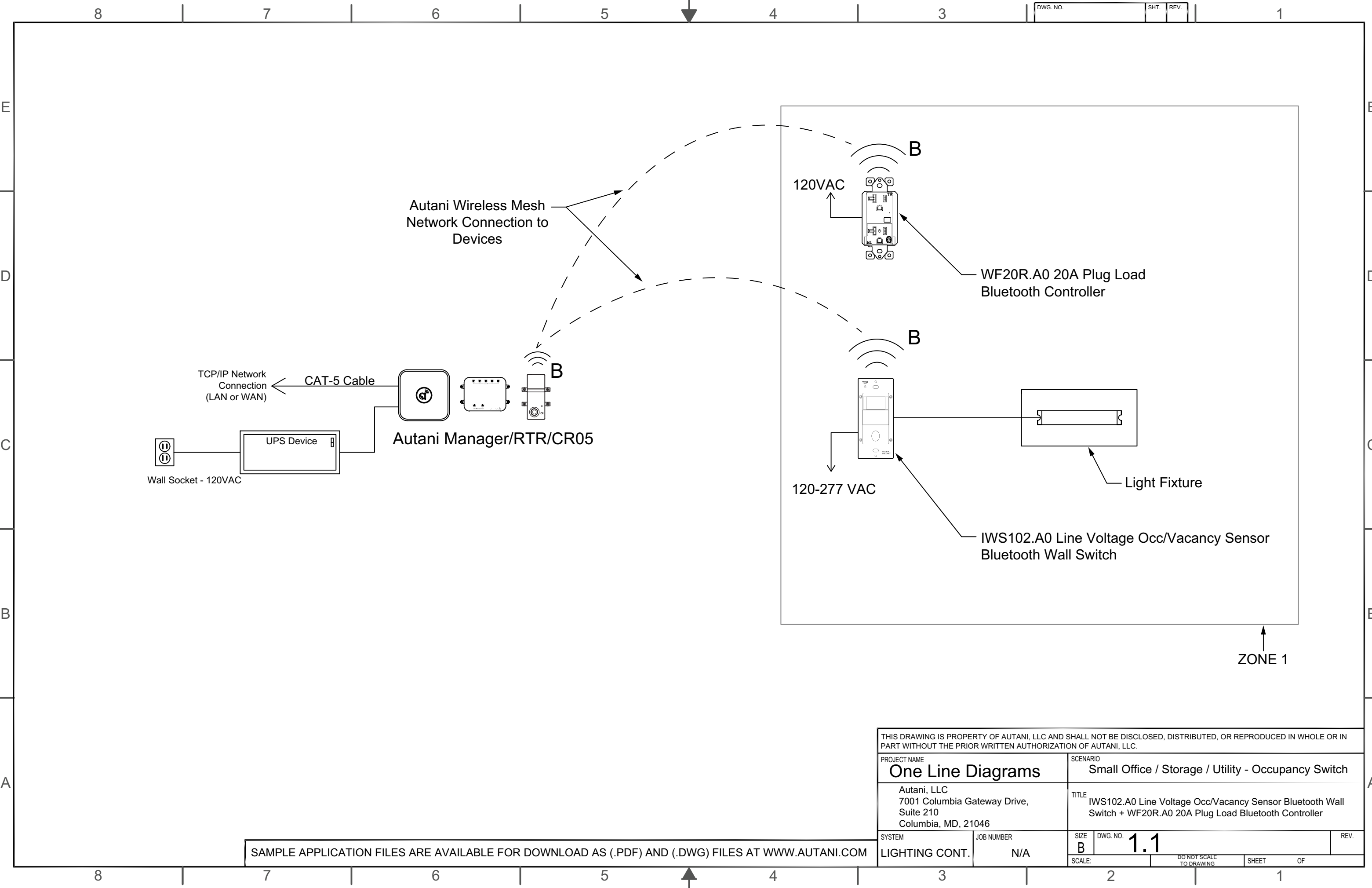
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PROJECT NAME			SCENARIO		
One Line Diagrams					
Autani, LLC 7001 Columbia Gateway Drive, Suite 210 Columbia, MD, 21046			TITLE		
EnOcean Device Network Layout Diagram					
SYSTEM		JOB NUMBER		SIZE	DWG. NO.
LIGHTING CONT.		N/A		B	0.5
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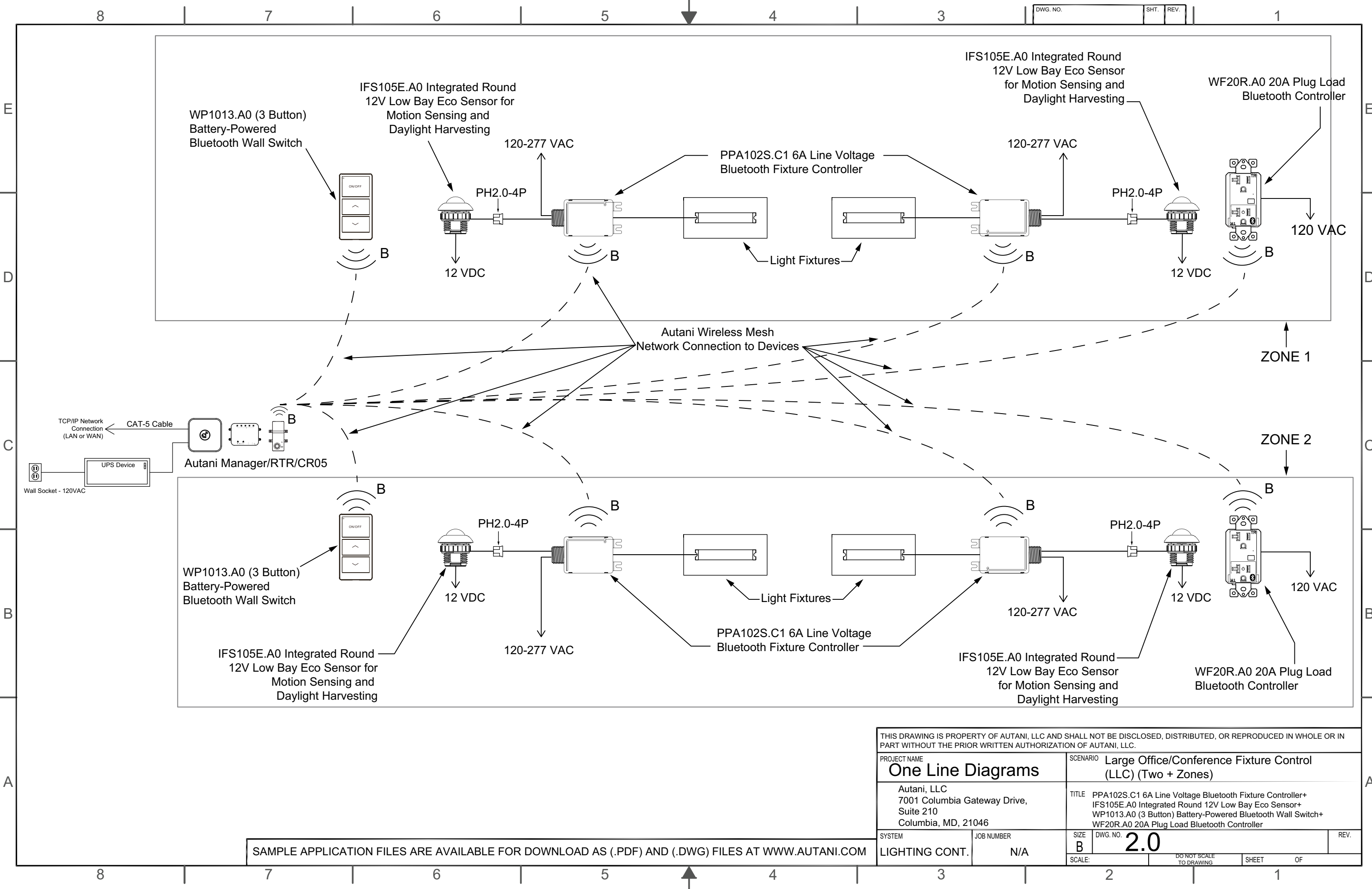
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PROJECT NAME One Line Diagrams		SCENARIO Small Office/Conference Fixture Control (LLC) (Single Zone)	
Autani, LLC 7001 Columbia Gateway Drive, Suite 210 Columbia, MD, 21046		TITLE PPA102S.C1 6A Line Voltage Bluetooth Fixture Controller + IFS105E.A0 Integrated Round 12V Low Bay Eco Sensor + WP1013.A0 (3 Button) Battery-Powered Bluetooth Wall Switch + WF20R.A0 20A Plug Load Bluetooth Controller	
SYSTEM LIGHTING CONT.	JOB NUMBER N/A	SIZE B	DWG. NO. 1.0
SCALE:		DO NOT SCALE TO DRAWING	SHEET OF

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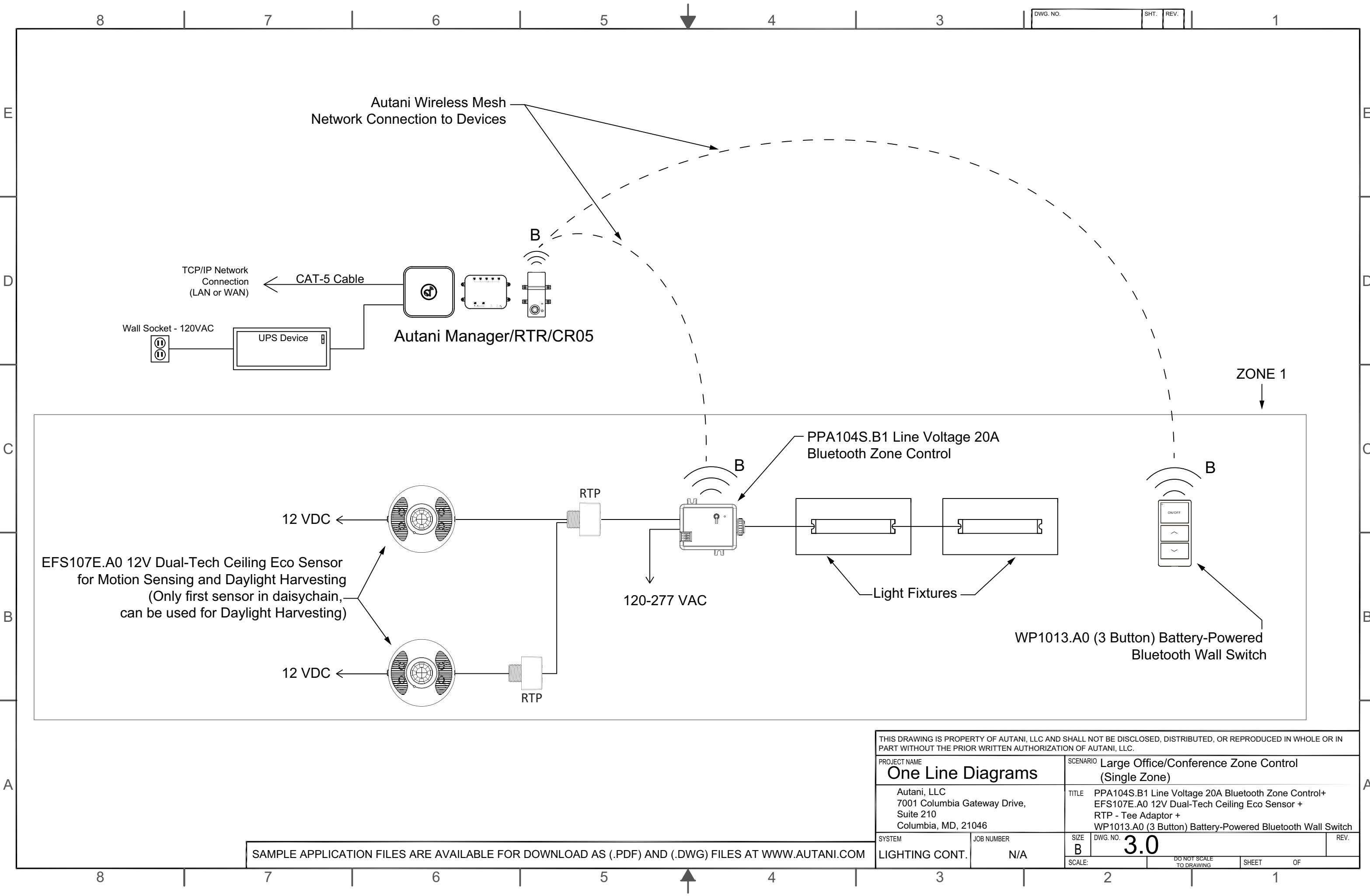
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PROJECT NAME			SCENARIO		
One Line Diagrams			Small Office / Storage / Utility - Occupancy Switch		
Autani, LLC 7001 Columbia Gateway Drive, Suite 210 Columbia, MD, 21046			TITLE IWS102.A0 Line Voltage Occ/Vacancy Sensor Bluetooth Wall Switch + WF20R.A0 20A Plug Load Bluetooth Controller		
SYSTEM		JOB NUMBER		SIZE	DWG. NO.
LIGHTING CONT.		N/A		B	1.1
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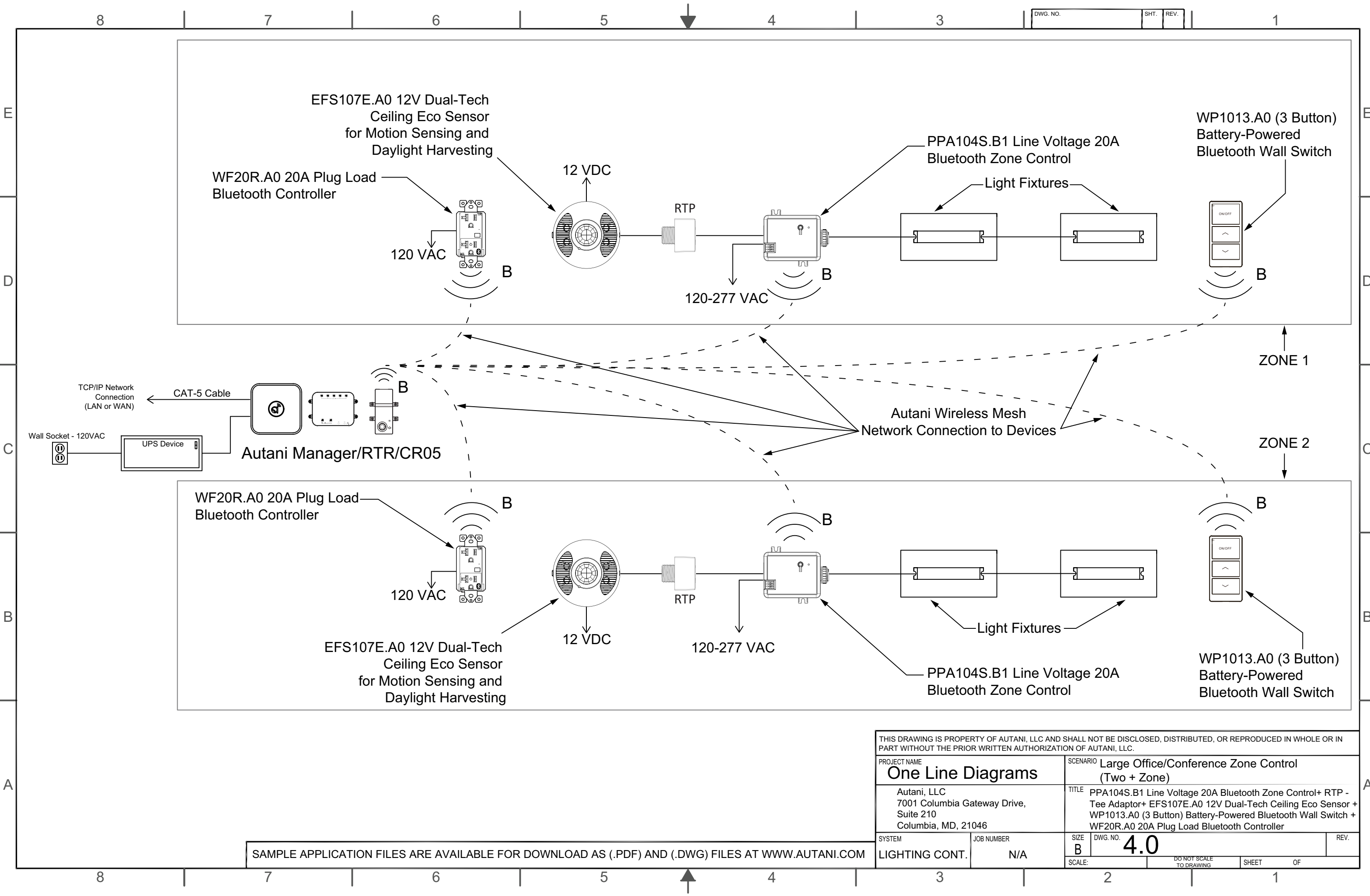
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PROJECT NAME			SCENARIO		
One Line Diagrams			Large Office/Conference Fixture Control (LLC) (Two + Zones)		
Autani, LLC 7001 Columbia Gateway Drive, Suite 210 Columbia, MD, 21046			TITLE PPA102S.C1 6A Line Voltage Bluetooth Fixture Controller+ IFS105E.A0 Integrated Round 12V Low Bay Eco Sensor+ WP1013.A0 (3 Button) Battery-Powered Bluetooth Wall Switch+ WF20R.A0 20A Plug Load Bluetooth Controller		
SYSTEM		JOB NUMBER		SIZE	REV.
LIGHTING CONT.		N/A		B	
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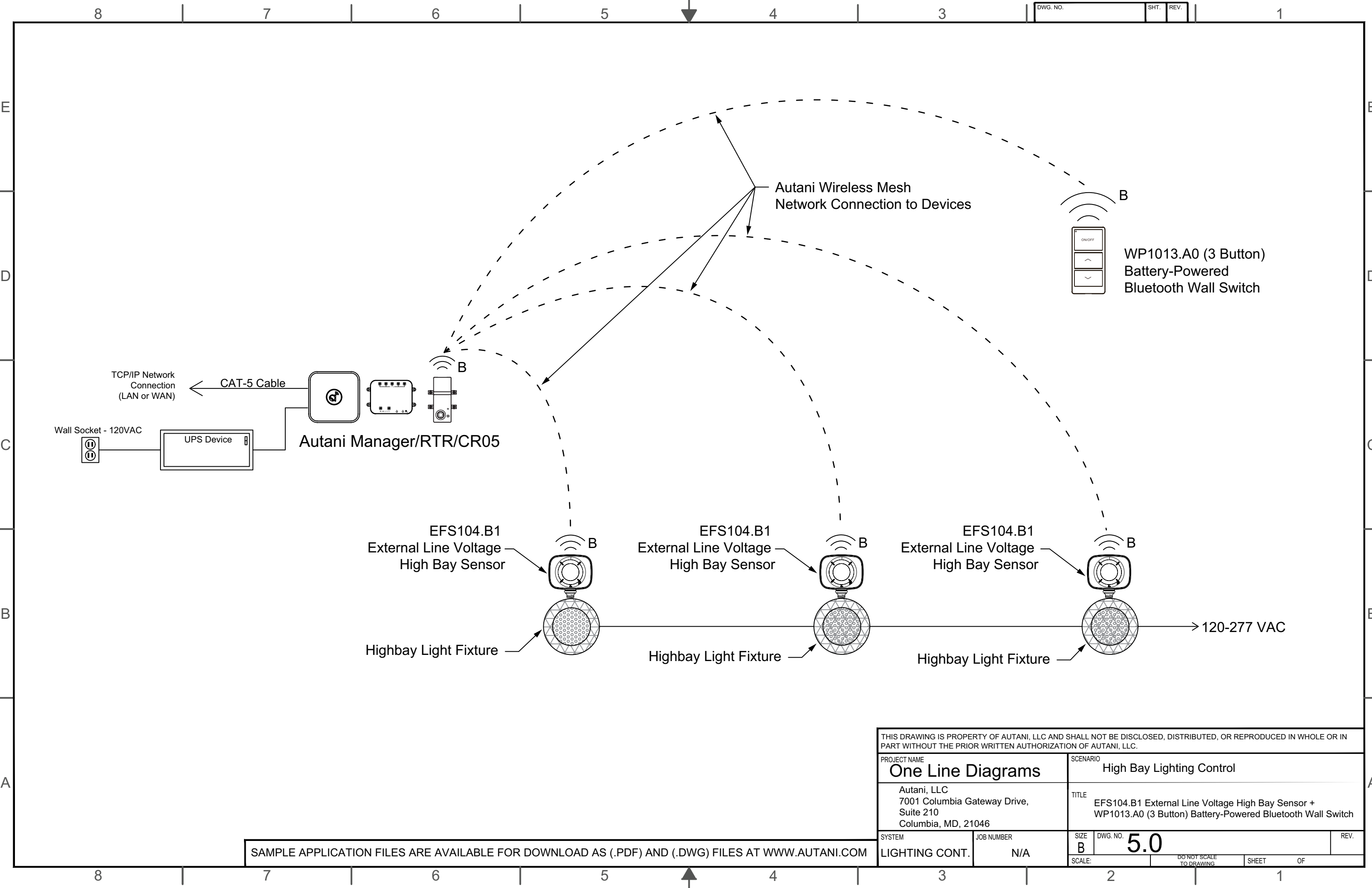


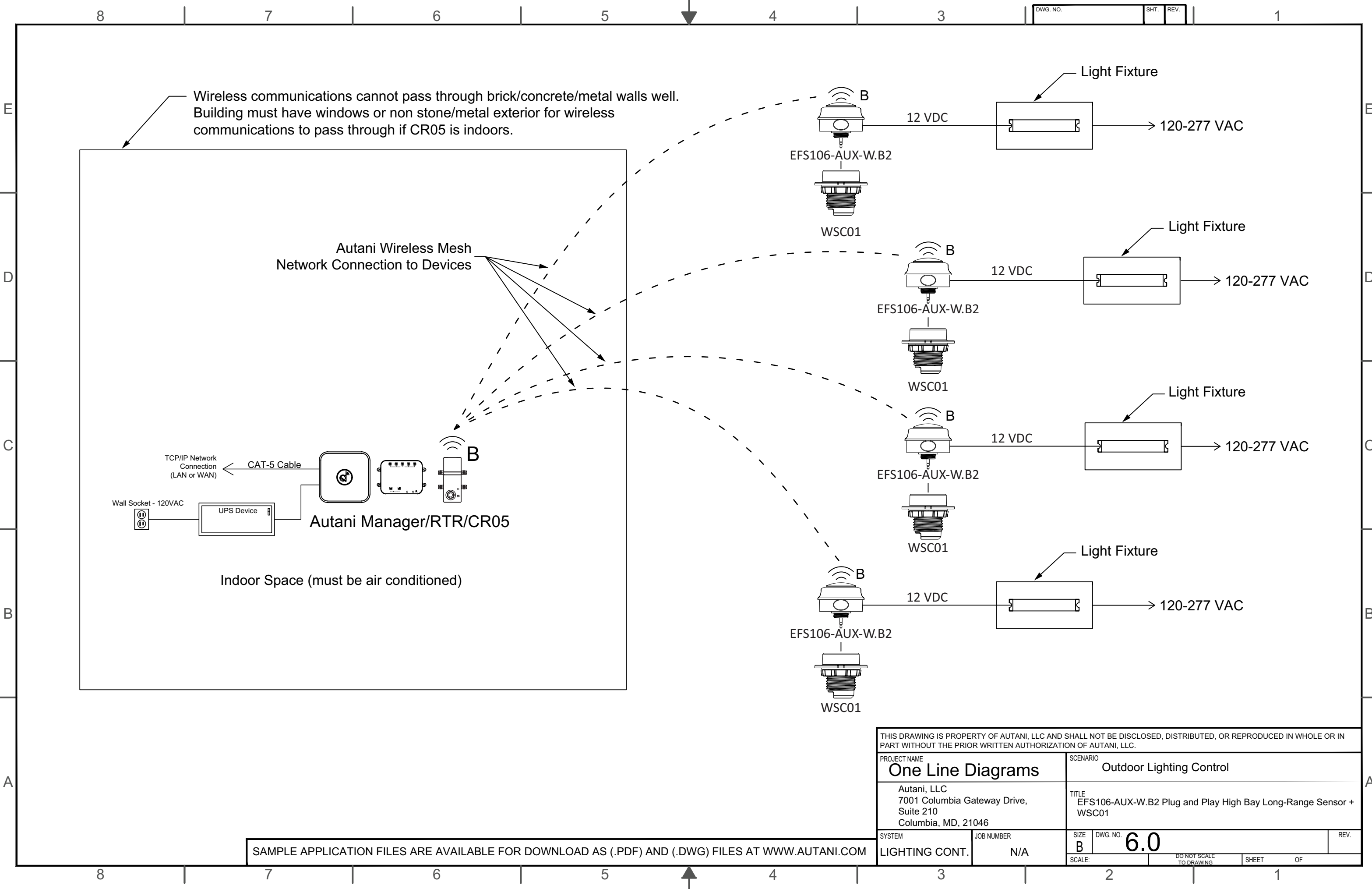
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PROJECT NAME		SCENARIO	
One Line Diagrams		Large Office/Conference Zone Control (Single Zone)	
Autani, LLC 7001 Columbia Gateway Drive, Suite 210 Columbia, MD, 21046		TITLE	
		PPA104S.B1 Line Voltage 20A Bluetooth Zone Control+ EFS107E.A0 12V Dual-Tech Ceiling Eco Sensor + RTP - Tee Adaptor + WP1013.A0 (3 Button) Battery-Powered Bluetooth Wall Switch	
SYSTEM	JOB NUMBER	SIZE	DWG. NO.
LIGHTING CONT.	N/A	B	3.0
SCALE:		DO NOT SCALE TO DRAWING	
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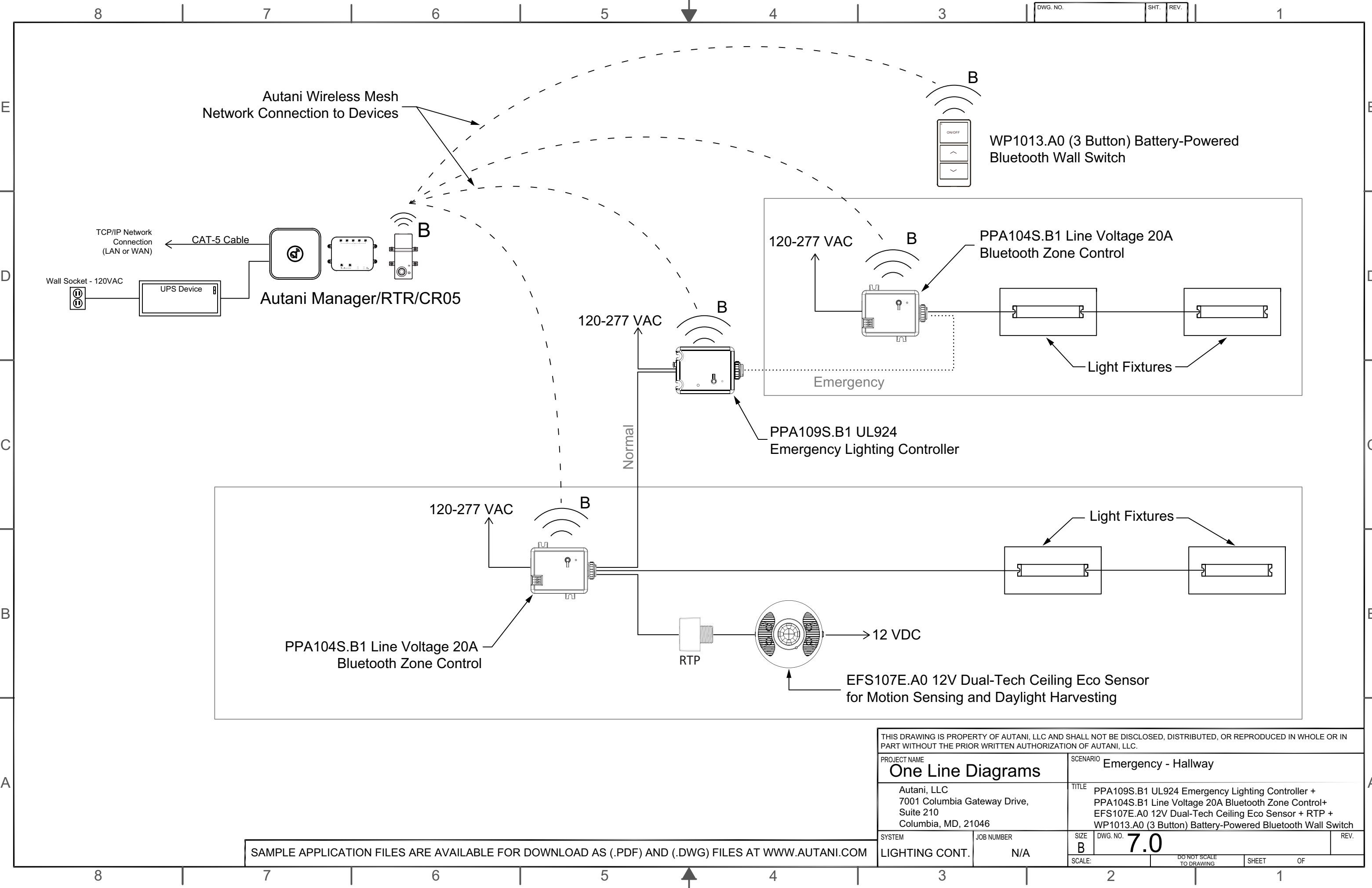
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PROJECT NAME		SCENARIO	
One Line Diagrams		Large Office/Conference Zone Control (Two + Zone)	
Autani, LLC 7001 Columbia Gateway Drive, Suite 210 Columbia, MD, 21046		TITLE PPA104S.B1 Line Voltage 20A Bluetooth Zone Control+ RTP - Tee Adaptor+ EFS107E.A0 12V Dual-Tech Ceiling Eco Sensor + WP1013.A0 (3 Button) Battery-Powered Bluetooth Wall Switch + WF20R.A0 20A Plug Load Bluetooth Controller	
SYSTEM	JOB NUMBER	SIZE	DWG. NO.
LIGHTING CONT.	N/A	B	4.0
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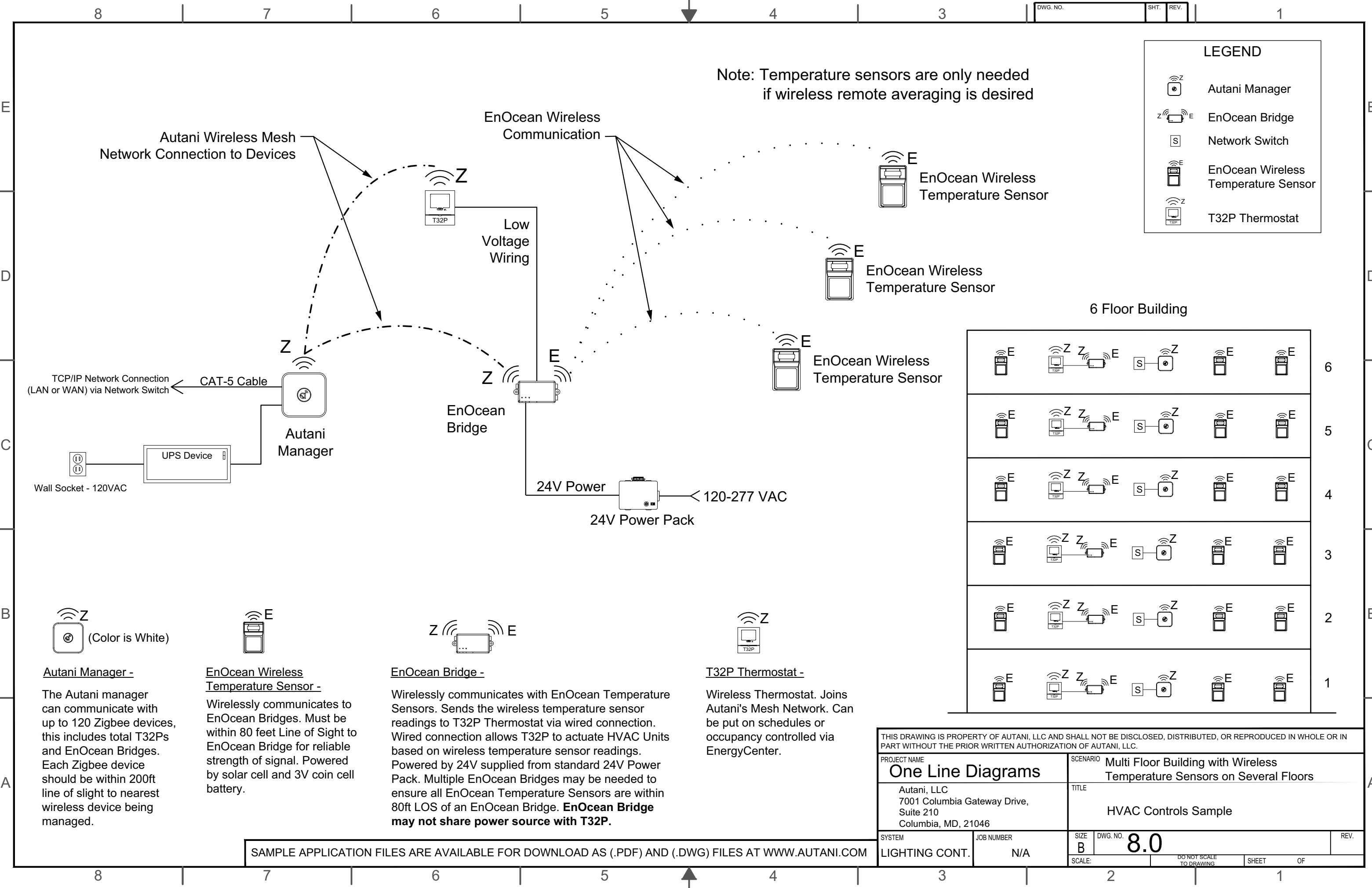
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PROJECT NAME			SCENARIO		
One Line Diagrams			Outdoor Lighting Control		
Autani, LLC 7001 Columbia Gateway Drive, Suite 210 Columbia, MD, 21046			TITLE EFS106-AUX-W.B2 Plug and Play High Bay Long-Range Sensor + WSC01		
SYSTEM		JOB NUMBER		SIZE	REV.
LIGHTING CONT.		N/A		B	
SCALE:		DO NOT SCALE TO DRAWING		SHEET OF	



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PROJECT NAME		SCENARIO	
One Line Diagrams		Emergency - Hallway	
Autani, LLC 7001 Columbia Gateway Drive, Suite 210 Columbia, MD, 21046		TITLE	
		PPA109S.B1 UL924 Emergency Lighting Controller + PPA104S.B1 Line Voltage 20A Bluetooth Zone Control+ EFS107E.A0 12V Dual-Tech Ceiling Eco Sensor + RTP + WP1013.A0 (3 Button) Battery-Powered Bluetooth Wall Switch	
SYSTEM	JOB NUMBER	SIZE	DWG. NO.
LIGHTING CONT.	N/A	B	7.0
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LEGEND

Autani Manager

EnOcean Bridge

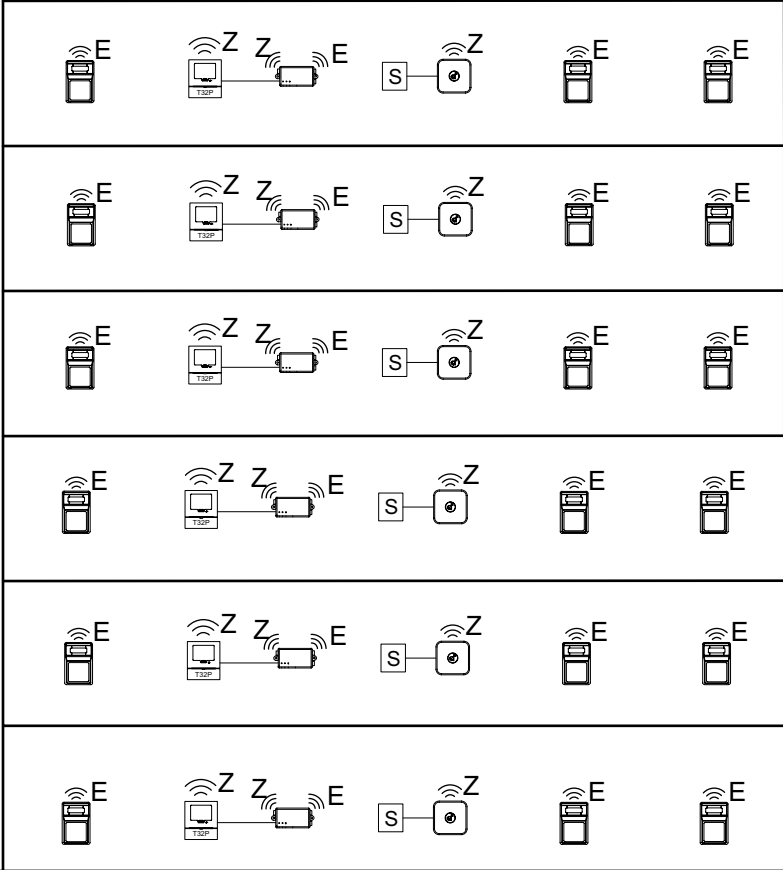
Network Switch

EnOcean Wireless Temperature Sensor

T32P Thermostat

Note: Temperature sensors are only needed if wireless remote averaging is desired

6 Floor Building



Autani Manager -

The Autani manager can communicate with up to 120 Zigbee devices, this includes total T32Ps and EnOcean Bridges. Each Zigbee device should be within 200ft line of sight to nearest wireless device being managed.

EnOcean Wireless Temperature Sensor -

Wirelessly communicates to EnOcean Bridges. Must be within 80 feet Line of Sight to EnOcean Bridge for reliable strength of signal. Powered by solar cell and 3V coin cell battery.

EnOcean Bridge -

Wirelessly communicates with EnOcean Temperature Sensors. Sends the wireless temperature sensor readings to T32P Thermostat via wired connection. Wired connection allows T32P to actuate HVAC Units based on wireless temperature sensor readings. Powered by 24V supplied from standard 24V Power Pack. Multiple EnOcean Bridges may be needed to ensure all EnOcean Temperature Sensors are within 80ft LOS of an EnOcean Bridge. **EnOcean Bridge may not share power source with T32P.**

T32P Thermostat -

Wireless Thermostat. Joins Autani's Mesh Network. Can be put on schedules or occupancy controlled via EnergyCenter.

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PROJECT NAME			SCENARIO		
One Line Diagrams			Multi Floor Building with Wireless Temperature Sensors on Several Floors		
Autani, LLC 7001 Columbia Gateway Drive, Suite 210 Columbia, MD, 21046			TITLE		
HVAC Controls Sample					
SYSTEM		JOB NUMBER		SIZE	DWG. NO.
LIGHTING CONT.		N/A		B	8.0
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