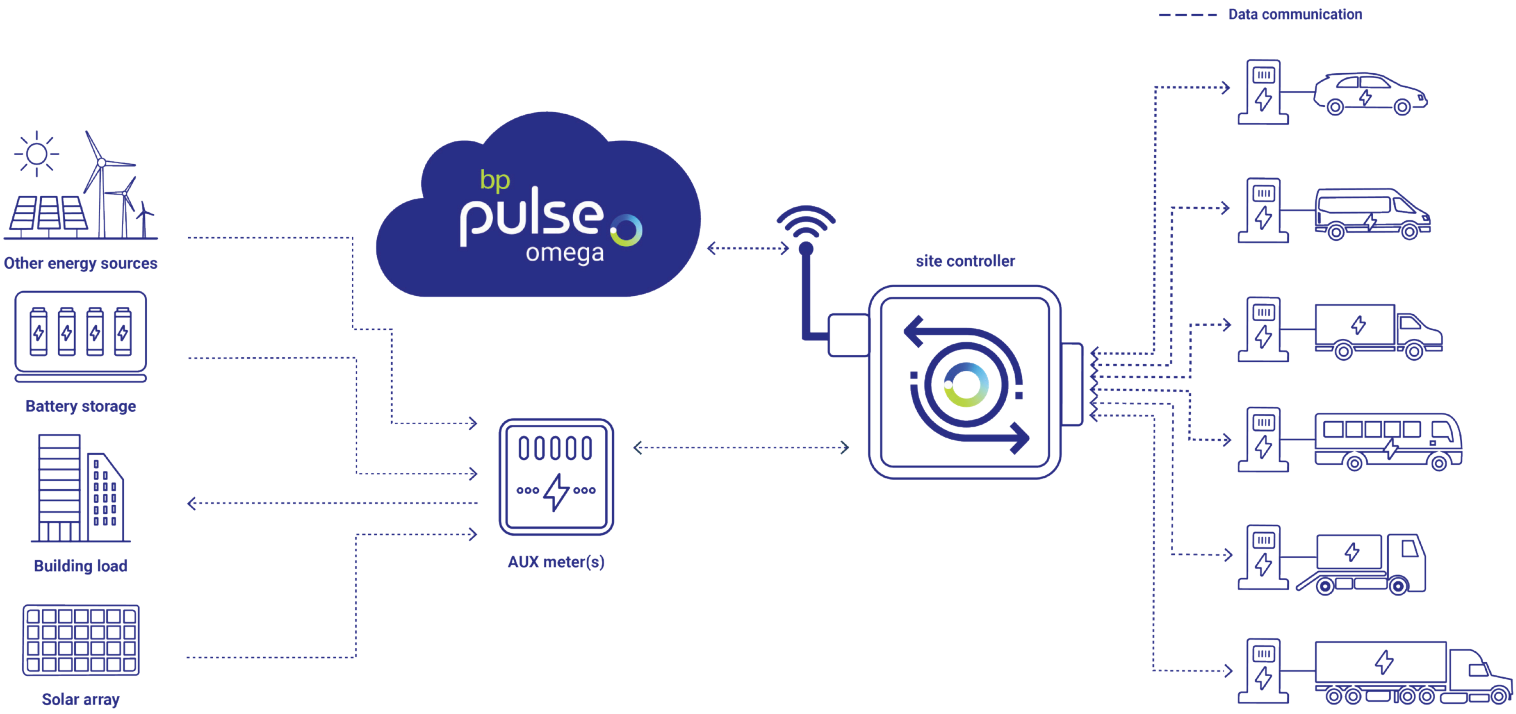
bp pulse site controller

Proprietary edge device translates energy & orchestrates charging

While robust charge management software is mission-critical for electric fleets, software-only solutions fall short on energy and load management. Our site controller ensures your power draw is within the utility threshold and speaks directly to all the components of your electric fleet operations, passing critical information to you in real-time via the omega™ cloud.



Your bp pulse site controller utilizes integrated revenue-grade meters that give real-time visibility of your charging energy usage, including main service loads, individual and aggregate charger loads, unmanaged building loads, and any distributed energy resources (DERs). Powered by omega, bp pulse's cloud-based charge management software, the site controller plans charging sessions to minimize your overall electricity costs and can help maximize the lifespan of your equipment. With your site controller installed in your electrical system, you have a resilient, local failover mode of operations, delivering guaranteed uptime.

bp pulse site controller features

The bp pulse site controller connects directly to your electrical switchgear, EV chargers, and the omega™ cloud, creating a fully connected ecosystem. Gathering data through these connections, the site controller passes critical information about your EV charging operations to your omega™ command center dashboard via its own network, ensuring your network remains stable and secure.

Automated load management

Intelligent & vigilant energy management

We guarantee charging sessions occur at times that make the most economical sense for your fleet, prioritizing lowest-cost energy, while keeping your power draw within the constraints of your existing electrical equipment, ensuring that your load will remain under maximum capacity.

Increased capacity without upgrades

The site controller automatically optimizes your power draw to ensure it never exceeds physical limits. This helps you maximize your EV fleet and load profile with your existing utility service, saving you from time-consuming and costly utility service upgrades.

Workflow resiliency

More than remote fleet monitoring

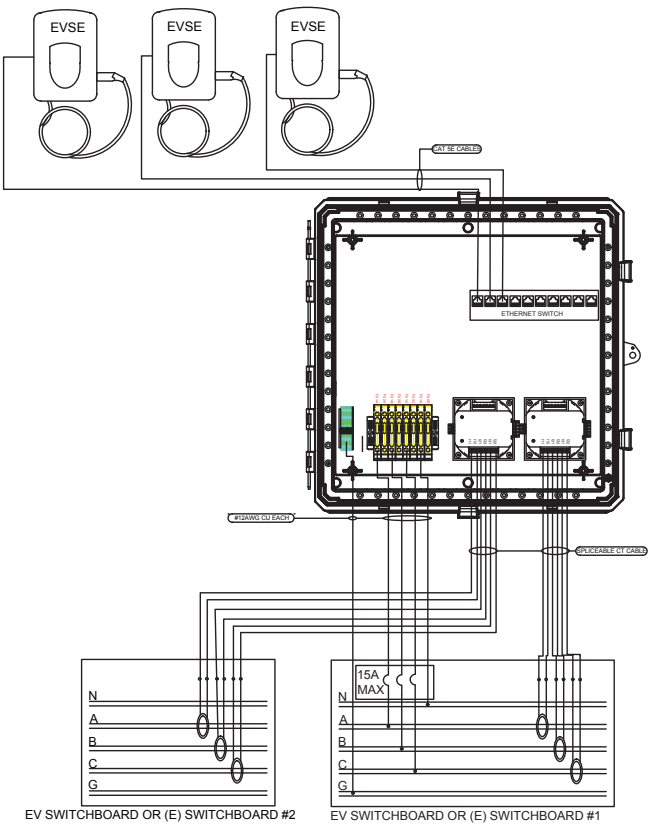
The site controller functions as a network switch, automating charging sessions to minimize your overall electricity costs, prolonging the lifespan of your hardware. With your site controller installed in your electrical system, you have a resilient, local failover mode of operations, delivering guaranteed uptime.

Grid service integration

Our system allows you to leverage available vehicle-to-grid (V2G) programs and distributed energy resources (DERs). Our platform is a certified OpenADR virtual appliance and can automatically participate in demand response programs – generating revenue without any changes to your fleet operations.

bp pulse site controller specifications

Feature	Description
Power system compatibility	120 - 480 VAC single or three phase, 50/60 Hz Medium and high voltage options available
Power consumption	20 Watts typical 50 Watts max Sourced from Voltage Sense
Network communication links	Upstream cloud connectivity through a secure cellular, carrier-diverse, backhaul and local area network interface with EV Chargers and meters
Physical interfaces	Ethernet, RS 232/485, GPIO, additional options available
Controller enclosure dimensions	24 x 24 x 10 inches
Ambient operating temperature range	-10 °C to +70 °C -40 °C to +85 °C (option available)
Mounting	Standard wall surface, strut channel, or switchgear mountable
Equipment enclosure	IP68 NEMA6P
Metering	ANSI C12.20 / IEC 61557-12/ UL 61010 Meter + Sensors
Compliance	UL 508, UL 1561, UL 61010, IEC 61557-12, IEC/EN 61010-1
Typical electrical connection configuration for voltage sense	Breaker: 15 Amps
	1P-N: 1 pole breaker
	2P-N: 2 pole breaker
	3P-N: 3 pole breaker



GENERAL NOTES:

1. DETAILS ON THIS SHEET SHOW TYPICAL SITE CONTROLLER ARRANGEMENT AND INSTALLATION AND ARE PROVIDED FOR INSTALLER PREFERENCE ONLY. REFER TO FINAL SITE SPECIFIC INSTALLATION DRAWINGS AND DOCUMENTS FOR ACTUAL INSTALLATION OF THE SITE CONTROLLER.
2. ALL EQUIPMENT SHALL BE UL LISTED.
3. COMMUNICATION WIRING SHALL BE PROTECTED BY A RACEWAY BELOW GROUND UNLESS LISTED FOR DIRECT BURIAL AND SHALL BE PROTECTED BY A RACEWAY ABOVE GROUND.
4. COMMUNICATION WIRING SHOULD NEVER BE INSTALLED IN THE SAME RACEWAY WITH POWER WIRING. CURRENT TRANSFORMER WIRING SHOULD NEVER BE INSTALLED IN THE SAME RACEWAY WITH POWER WIRING. COMMUNICATION AND POWER WIRING MAY ONLY SHARE PULL BOXES IF THE VOLTAGE RATING OF THE COMMUNICATION WIRE INSULATION EXCEEDS THE HIGHEST NOMINAL OPERATING VOLTAGE OF THE POWER WIRING, OR IF A SUITABLY RATED DIVIDER SEPARATES THE TWO WIRE TYPES.
5. INSTALLATION SHALL BE IN ACCORDANCE WITH ELECTRICAL AND BUILDING CODES APPLICABLE TO THE CONSTRUCTION SITE. AHJ HAS FINAL JURISDICTION AUTHORITY ON CODE APPLICATION AND COMPLIANCE.
6. ALL WIRING AND GROUNDING METHODS SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDED PRACTICES.
7. EQUIPMENT SHALL BE LOCKABLE OR GUARDED AGAINST ACCESS BY UNQUALIFIED PERSONS. NEC WORKING CLEARANCE SHALL BE MAINTAINED SUFFICIENT TO MEET THE HIGHEST VOLTAGE PRESENT IN THE EQUIPMENT.
8. CONDUIT SHALL ENTER THE BOTTOM OF THE SITE CONTROLLER OR NETWORK SWITCH ENCLOSURES TO ASSURE RAINTIGHTENESS.
9. THE 3-LINE DIAGRAM ASSUMES ALL EV SWITCHBOARDS ARE RATED AT THE SAME VOLTAGE LEVEL. IF THERE ARE EV SWITCHBOARDS WITH DIFFERENT VOLTAGE RATINGS, AN ADDITIONAL 15A BREAKER IS REQUIRED TO BE POWERED FROM THE OTHER VOLTAGE REFERENCE SWITCHBOARD FOR VOLTAGE SENSING PURPOSES. PLEASE REFER TO INSTALLATION MANUAL SITE CONTROLLER ASC V1. FOR MORE DETAILS.

EQUIPMENT NOTES:

1. NEW SITE CONTROLLER. SEE FINAL MANUFACTURER SUBMITTAL FOR ACTUAL INSTALLATION REQUIREMENTS. REFER TO MONITORING CIRCUIT SHCEDULE FOR ALL CABLE SPECIFICATIONS CAREFULLY CHECK VOLTAGE REFERENCE AND CURRENT TRANSFORMER WIRING POLARITY TO VERIFY CORRECT METER WIRING.
2. VOLTLAGE REFERENCE CONNECTION SHOULD BE VIA A LISTED CIRCUIT BREAKER.
3. OBSERVE CORRECT SECONDARY WIRE POLARITY AND ORIENTATION OF CURRENT TRANSFORMERS. ORIENTATION DOT SHOULD FACE THE INVERTER POWER SOURCE. SECONDARY WIRE COLOR CODING CONVENTION VARIES BETWEEN MANUFACTURERS, VERIFY CORRECT X1 AND X2 COLOR WITH CT MANUFACTURER.
4. RUN CT WIRING IN SEPARATE CONDUIT AND AT LEAST 1' FROM ALL POWER CONDUCTORS. IF CT LEAD LENGTH EXCEEDS 40 FEET, INCREASE CT LEAD WIRE SIZE PER LENGTH AND SIZE CHART SHOWN BESIDE MONITORING CIRCUIT SCHEDULE.

NO.	DATE	REVISION	INT.

DRAWN ON: 9/29/2022

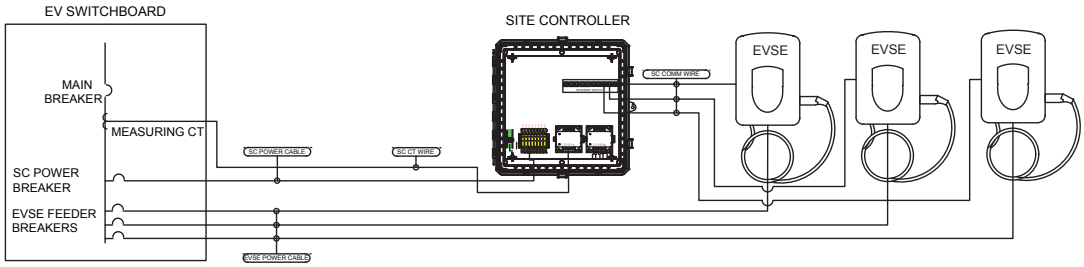
ADDRESS:
BP PULSE FLEET, 335 EAST MIDDLEFIELD ROAD, MOUNTAIN VIEW, CA 94043

SITE CONTROLLER

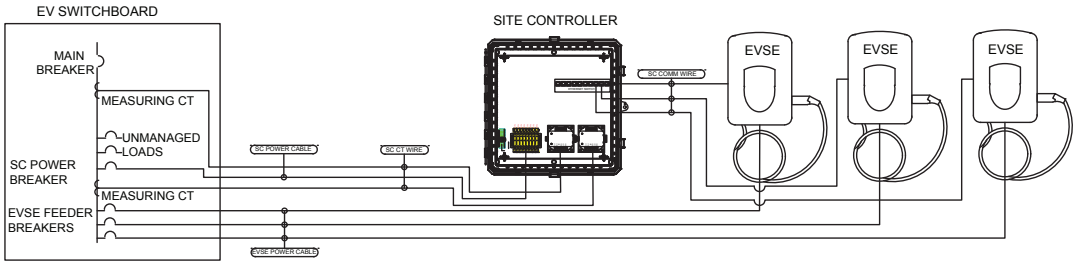
SHEET TITLE:
3- LINE DIAGRAM

SCALE: NTS

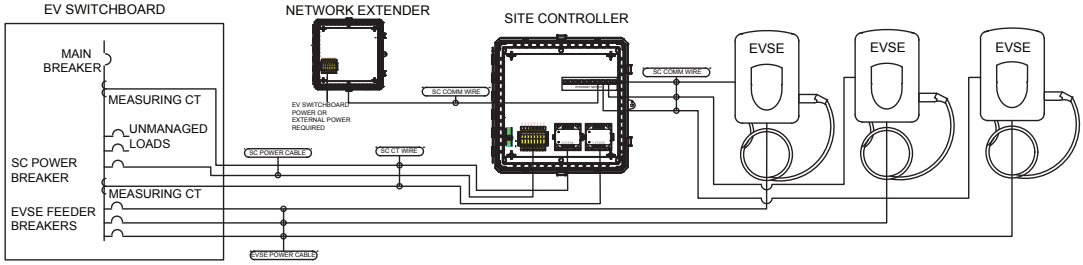
SHEET NUMBER E3.1



SITE CONTROLLER CONFIGURATION-DEDICATED EVSE SERVICE



CONTROLLER CONFIGURATION: EVSE+UNMANAGED LOADS



CONTROLLER CONFIGURATION: EXTENDED NETWORK

WIRE SCHEDULE		
WIRE TAG	WIRE DETAILS	CONDUIT DETAILS
SC POWER CABLE	(4) #12 AWG CU + (1) #12 AWG CU EGC	(1) 1" CONDUIT
SC COMM WIRE	CAT 5E CABLE	(1) 1" CONDUIT
SC CT WIRE	SPLICEABLE ACCUENERGY CT CABLE	(1) 1" CONDUIT
EVSE POWER CABLE	REFER PROJECT SINGLE LINE DIAGRAM	N/A

NO.	DATE	REVISION	INT.

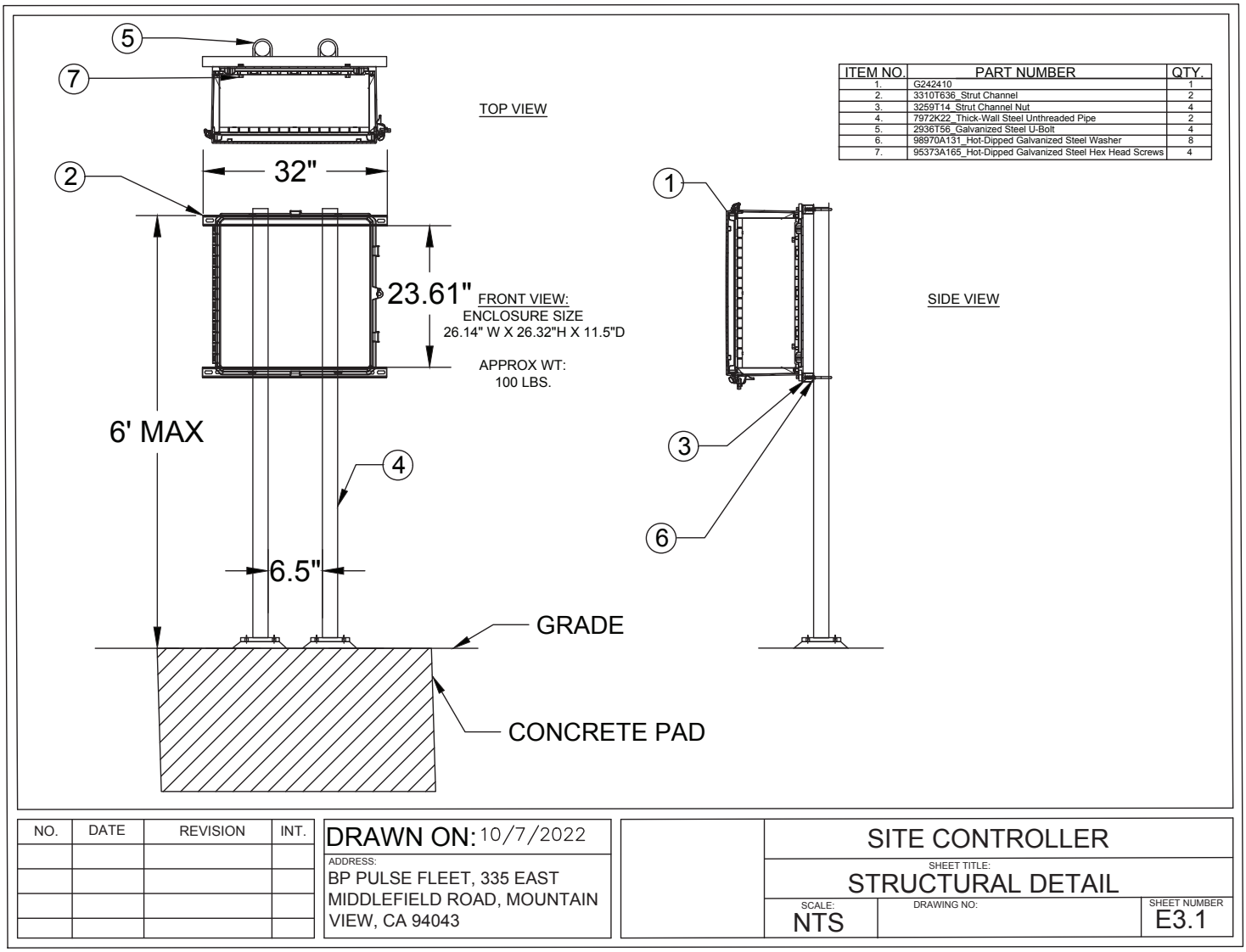
DRAWN ON: 9/29/2022

ADDRESS:
BP PULSE FLEET, 335 EAST MIDDLEFIELD ROAD, MOUNTAIN VIEW, CA 94043

SITE CONTROLLER

SHEET TITLE:
SINGLE LINE DIAGRAM

SCALE:	DRAWING NO:	SHEET NUMBER
NTS		E3.1



ITEM NO.	PART NUMBER	QTY.
1.	G242410	1
2.	3310T636_Strut Channel	2
3.	3259T14_Strut Channel Nut	4
4.	7972K22_Thick-Wall Steel Unthreaded Pipe	2
5.	2936T56_Galvanized Steel U-Bolt	4
6.	98970A131_Hot-Dipped Galvanized Steel Washer	8
7.	95373A165_Hot-Dipped Galvanized Steel Hex Head Screws	4

NO.	DATE	REVISION	INT.

DRAWN ON: 10/7/2022

ADDRESS:
BP PULSE FLEET, 335 EAST MIDDLEFIELD ROAD, MOUNTAIN VIEW, CA 94043

SITE CONTROLLER

SHEET TITLE:
STRUCTURAL DETAIL

SCALE: NTS

DRAWING NO:

SHEET NUMBER: E3.1