



EdgeEV™

480V Three-Phase Power Source for DC Fast Chargers

Installation Guide: EdgeEV100™ / EdgeEV150™

Solid State Digital Technology

Single-Phase to Three-Phase Conversion



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INTRODUCTION

The EdgeEV™ Power Source converts single-phase AC utility power to three-phase AC power required for operation of DC Fast Charging stations. This capability is important for locations where three-phase utility service is either unavailable or cost-prohibitive.

The EdgeEV™ Power Source delivers high quality three-phase power while maintaining phase-to-phase voltage balance of 2% or better. The power converter operates at high efficiency to reduce power costs for DCFC stations. Each station is fitted with high quality surge suppression devices to minimize potential damage due to voltage spikes.

The EdgeEV™ Power Source is suitable for installation outdoors in a public-facing environment without addition fencing or protection. The NEMA 3R enclosure is constructed from rugged 12-gauge, powder-coated steel and is outfitted with active status, temperature and power monitoring to ensure safe and reliable operation. The integrated design minimizes the requirement for additional service equipment for connection to the single-phase utility power source and three-phase DCFC station.

The available remote monitoring systems of the EdgeEV™ Power Source use an on-board data acquisition system with cellular modem and cloud-based data storage. Local and remote dashboards enable operators to monitor equipment status and performance on an ongoing basis. Automatic alarming informs the operator should a problem arise, ensuring a quick service response for maximum uptime.

SAFETY MESSAGES AND WARNINGS

To ensure safe and reliable operation of the EdgeEV™, it is important to carefully read this manual and to observe all warning labels attached to the unit before installing. Please follow all instructions exactly and keep this manual with the unit for quick and easy reference.

Definitions of Warning Signs and Symbols

CAUTION: Indicates a potentially hazardous situation that could result in injury or damage to the product.

WARNING: Indicates a potentially hazardous situation that could result in serious injury or death.

HIGH VOLTAGE: The voltage associated with the procedures references could result in serious injury or death. Use caution and follow instructions carefully. These voltages are less than 1000 Vac or Vdc, but greater than 50 Vac or Vdc.

READ THESE WARNINGS BEFORE INSTALLING OR OPERATING EQUIPMENT!

WARNING: Risk of electric shock. This equipment is service entrance rated. Opening the input disconnect switch will not fully de-energize the internal equipment within the enclosure. Please note labels indicating energized equipment before servicing.

WARNING: Risk of electric shock. De-energize the unit by disconnecting all incoming sources of power, then wait 3 minutes for internal charges to dissipate before servicing the equipment. **ALWAYS** test for residual voltages before commencing service.

HIGH VOLTAGE: This equipment is connected to line voltages that can create a potentially hazardous situation. Electric shock could result in serious injury or death. This device should be installed and serviced only by trained, licensed, and qualified personnel. Follow instructions carefully and observe all warnings.

WARNING: Installation of this equipment must comply with the National Electrical Code (NEC) and all applicable local codes. Failure to observe and comply with these codes could result in risk of electric shock, fire, or damage to the equipment.

CAUTION: Appropriate grounding circuits and their proper installation are not provided by EdgeEnergy™, and are the responsibility of the end user and their installation contractor.

CAUTION: Failure to maintain adequate clearance may lead to overheating of the unit and potential cause damage or fire.

WARNING: Input and output power connections should be made by a qualified electrician with conductors that have adequate voltage and current carrying capacity and temperature rating suitable for the model and temperature ratings of the enclosure.

CAUTION: The voltage drop of the leads needs to be considered in determining wire size. Voltage drop is dependent on conductor material, resistance, ampacity and length.

CAUTION: Wires fastened to the terminal blocks shall be secured by tightening the terminal screws to a torque value listed in Table 2.

CAUTION: The input wire gauge must be sized for the single-phase input current, which will be significantly larger than the three-phase output current to the load. The minimum wire gauge for the input terminals is listed in Table 2.

CAUTION: Never allow bare wire to contact metal surfaces.

CAUTION: Never connect incoming single-phase AC power to the three-phase output terminals.

WARNING: Under certain conditions, the EdgeEV™ may automatically restart after a trip has stopped it. Make sure power to the converter has been disconnected before approaching or servicing the equipment. Otherwise, serious injury may occur.

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KEY FEATURES

The EdgeEV™ is designed to address common challenges with constrained utility infrastructure, where access to three-phase utility service is either cost-prohibitive or unreasonably difficult to obtain. The EdgeEV™ Power Source is intentionally designed to work with conventional single-phase utility infrastructure, removing barriers to the installation of conventional three-phase DCFC stations and significantly expanding the number of locations where rapid EV charging stations may be installed.

EdgeEV™ models are available to match commonly used DCFC stations. Ratings are available to serve the following DCFC station ratings:

- EdgeEV100™ up to 100 kW DCFC
- EdgeEV150™ up to 150 kW DCFC

Note: Multiple DCFC stations of smaller ratings may be supported by a single EdgeEV™ Power Source provided the combined peak power requirements of the DCFC stations do not exceed the output power rating of the EdgeEV™ model.

Ease of installation is an important characteristic of the EdgeEV™. The integrated design includes key features to support a safe and reliable connection to your utility service and any DCFC station suitable for the output rating of the EdgeEV™ Power Source.

Note: The connection of multiple DCFCs to the EdgeEV™ Power Source will require the installation of a NEMA 3R power distribution panel.

Key Features include:

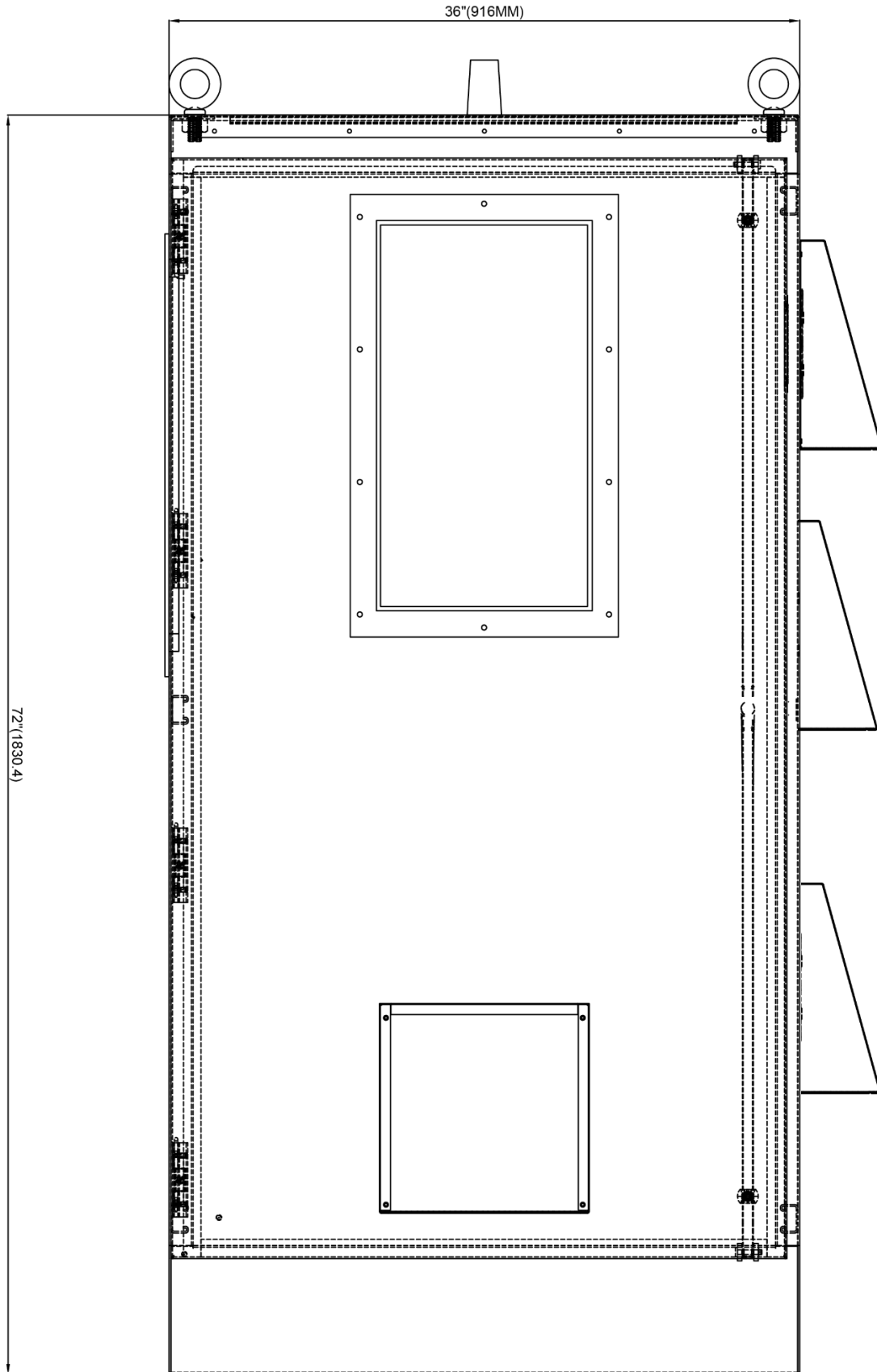
- Service-Entrance Rated Enclosure
- Externally Accessible and Lockable Disconnect Switches
- Integrated Over-Current Protection for both Input/Output
- Secure Public-Facing Outdoor-Rated Enclosures
- User-Friendly Touchscreen Interfaces
- Lockable Access Covers to Reduce Risk of Vandalism and Tampering
- Flexible Installation (needed not be immediately next to DCFC)
- Local Data Acquisition and Dashboard (Optional)
- Remote Monitoring with Cloud-Based Storage/Dashboard (Optional)

SPECIFICATIONS – Table 1

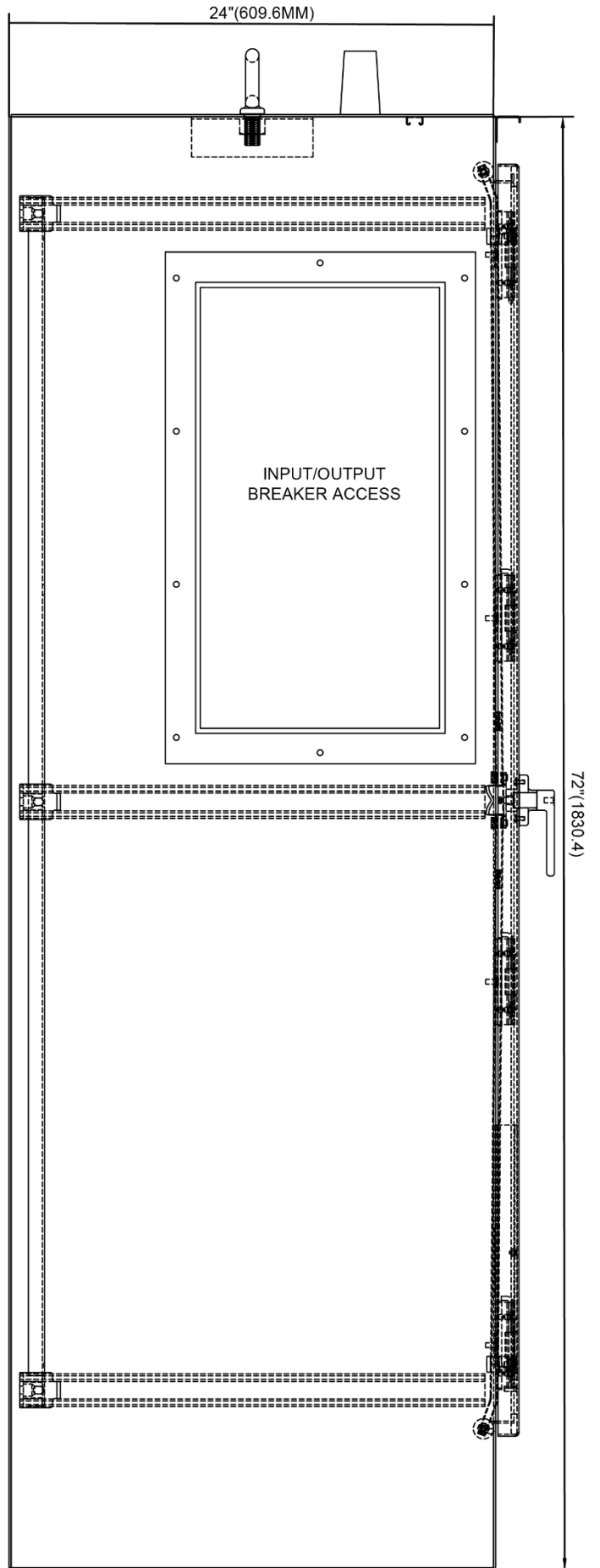
Model Specifications	EdgeEV100™	EdgeEV150™
Utility Service Configuration		
Service Voltage (minimum requirement)	480 Vac, Single-Phase	480 Vac, Single-Phase
Service Wiring Configuration (minimum requirement)	2-Wire (L1, L2, G)	2-Wire (L1, L2, G)
Service Voltage (compatible)	240/480 Vac, Split-Phase	240/480 Vac, Split-Phase
Service Wiring (compatible)	3-wire (L1, L2, N, G)	3-wire (L1, L2, N, G)
Service Transformation (minimum requirement)	125 kVA	250 kVA
Electrical Input Characteristics		
Input Connection (L-L)	Single-Phase	Single-Phase
L-L Input Voltage (standard)	480 Vac	480 Vac
L-L Input Voltage Tolerance (standard)	440 - 520 Vac	440 - 520 Vac
Input Frequency (standard)	60 Hz	60 Hz
Full-Load Input Current	265 Amps	370 Amps
Input Power Factor (rated load)	0.93	0.93
Input Over-Current Protection (100% Rated)	300 Amps	400 Amps
Input Over-Current Protection (80% Rated - Optional)	350 Amps	500 Amps
Electrical Output Characteristics		
Output Connection Type	Three-Phase	Three-Phase
Output Connection Configuration (standard)	Delta	Delta
Output Wiring Connections (standard)	L1, L2, L3, G	L1, L2, L3, G
Output Connection Configuration (optional)	Wye	Wye
Output Wiring Connections (optional)	L1, L2, L3, N, G	L1, L2, L3, N, G
Delta-Wye Transformer Rating (optional)	118 kVA	175 kVA
Output Voltage (L-L)	480 Vac	480 Vac
Output Voltage Balance	< 2%	< 2%
Full-Load Output Current	142 Amps	198 Amps
Output Over-Current Protection (80% Rated)	200 Amps	250 Amps
Efficiency and Power Quality Characteristics		
Full Load Efficiency	98.7%	98.7%
Standby Power Consumption	300 W	330 W
Meets IEEE 519 Requirements	Yes	Yes
Input Surge Protection (standard)	Class I + II (IEC 61643-11)	Class I + II (IEC 61643-11)
Input Short Circuit Rating (standard)	35 kA	35 kA
Environmental Characteristics		
Operating Temperature (standard)	-10 C (14 F) to 50 C (122 F)	-10 C (14 F) to 50 C (122 F)
Cold Weather Operating Temperature (optional)	-40 C (-40 F) to 50 C (122 F)	-40 C (-40 F) to 50 C (122 F)
Storage Temperature	-40 C (-40 F) to 60 C (140 F)	-40 C (-40 F) to 60 C (140 F)
Cooling Apparatus	Active Fans / Ambient Air	Active Fans / Ambient Air
Operating Altitude (without de-rating)	2000 m (6600 ft)	2000 m (6600 ft)
Ambient Humidity	< 95% RH (non-condensing)	< 95% RH (non-condensing)
Sound Level	< 65 dB	< 65 dB
Enclosure Characteristics		
Enclosure Rating	NEMA 3R, NEMA 12, IP 55/IP 65	NEMA 3R, NEMA 12, IP55/IP 65
Enclosure Dimensions (width x depth x height)	916 mm x 611 mm x 1830 mm	916 mm x 611 mm x 1830 mm
Enclosure Dimensions (width x depth x height)	36.06 in x 24.06 in x 72.06 in	36.06 in x 24.06 in x 72.06 in
Unit Weight	350 kg (775 lbs)	365 kg (800 lbs)
Connectivity		
Service and Maintenance	Remote Monitoring	Remote Monitoring
Application interface (local)	Screen-Based Dashboard	Screen-Based Dashboard
Application Interface (remote)	Cloud-Based Dashboard	Cloud-Based Dashboard
Wide Area Cellular Network (standard)	4G / 5G	4G / 5G
Local Area Network (standard)	Ethernet (RG45/RJ45)	Ethernet (RG45/RJ45)
Local Area Network (optional)	2.4 GHz / 5 GHz Wifi	2.4 GHz / 5 GHz Wifi
Human Machine Interface (HMI)		
On-Screen	7-Inch, Touch Screen	7-Inch, Touch Screen
Manual Controls	E-Stop, Start, Stop, Manual/Off/Auto	E-Stop, Start, Stop, Manual/Off/Auto
General Safety Features		
Emergency Shutdown	E-Stop Button	E-Stop Button
Input Power Disconnect Switch	Yes	Yes

Electrical Input Isolation	Lockable Disconnect Handle	Lockable Disconnect Handle
Output Power Disconnect Switch	Yes	Yes
Electrical Output Isolation	Lockable Disconnect Handle	Lockable Disconnect Handle
Enclosure Door Safety Switch	Yes	Yes
Monitored Over/Under Voltage Protection	440 - 520 Vac	440 - 520 Vac
Input Over-Current Protection (per NEC)	300 Amp, MCCB (100% rated)	400 Amp, MCCB (100% rated)
Monitored Input Over-Current Protection	Yes	Yes
Output Over-Current Protection (per NEC)	200 Amp, MCCB (80% rated)	250 Amp, MCCB (80% rated)
Monitored Output Over-Current Protection	Yes	Yes
Monitored Over-Temperature Protection	Yes	Yes
Available Monitoring Capabilities		
Input Power	V, A, kVA, kW, Pf, Vthd, Ithd	V, A, kVA, kW, Pf, Vthd, Ithd
Output Power	V, A, kVA, kW, Pf, Vthd, Ithd	V, A, kVA, kW, Pf, Vthd, Ithd
Machine Status	On/Off, Manual/Auto, Contactors	On/Off, Manual/Auto, Contactors
Temperature	Ambient/Enclosure/Component	Ambient/Enclosure/Component
Regulatory Compliance		
UL Safety Certification	UL 508A	UL508A
Warranty Protection		
Standard Warranty	Standard 1 Yr	Standard 1 Yr
Warranty Extensions (optional)	+2 Yrs	+2 Yrs

DIMENSIONAL DRAWINGS



FRONT VIEW



LEFT SIDE VIEW

INSTALLATION INSTRUCTIONS

Safety Instructions

These instructions should be reviewed in full prior to planning and undertaking an EdgeEV™ installation.

Equipment should be installed by a certified electrician in a manner that is compliant with the latest versions of the National Electrical Code (NEC) and local code requirements. In many jurisdictions, installation will require a planning check with local authorities, along with appropriate building and electrical permits. Please verify the installation with the local Authority Having Jurisdiction (AHJ) prior to installing the equipment to establish the applicable local codes for the installation of an EdgeEV™.

Electrical equipment relies on a proper grounding system for safe operation. All grounding instructions should be strictly adhered to as prescribed in this manual and any applicable electrical installation requirements specified in local electrical safety codes and the NEC.

High Voltage Equipment

Warning: This equipment contains both AC and DC circuitry of less than 1000 volts. Installation and service should be undertaken by a qualified electrician trained to work on voltages up to 1000 volts AC or 1000 volts DC.

Additional Cautionary Notes

Caution: Opening the front enclosure door to the high voltage compartment requires the externally mounted input disconnect switch to be opened. Opening the disconnect switch removes power from the power converter in the high voltage compartment.

Warning: The 480 V utility service input to the enclosure will remain energized up to and including the input terminals of the input MCCB when the disconnect switch is open. Please note caution labels within the enclosure.

Qualified personnel should use appropriate personnel protection equipment when troubleshooting or testing this equipment. Only trained and certified personnel should be working on equipment contained within the high voltage enclosure.

Warning: High voltage energy storage capacitors are used in this system. There are components and circuits that may remain energized for a short period after the main power is disconnected (3 minutes). Always test connections with a voltmeter prior to performing maintenance or service on this equipment.

Site Requirements

The EdgeEV™ is designed to operate without user intervention once installed and activated by the site operator. The equipment will restart automatically after a utility service outage or interruption when placed in "Auto" mode. DCFC charging sessions may resume once DCFC station has reinitialized itself following a utility outage.

The installation should be protected by appropriate bollards or parking stops in compliance with local codes to restrict approach by a vehicle when installed in a location that is exposed to vehicle traffic. Additional access restriction may be required by local code.

The EdgeEV™ Power Source need not be installed directly adjacent to the DCFC for which it is providing three-phase power. Per NEC, the maximum distance between the EdgeEV™ and DCFC is determined by the allowable voltage drop on the electrical conductors used to connect the equipment to the utility service and DCFC.

Table 1 provides an indication of the maximum recommended distances between the EdgeEV™ and its single-phase utility supply and companion DCFC based on the minimum conductor ampacity ratings specified for this equipment by the NEC.

Note: Greater distances may be accommodated with appropriate up-sizing of conductors as allowed under the NEC, subject to the maximum allowable cable sizes for the input and output connection terminals.

Physical Installation Guidelines

Proper installation is important to the performance and operating life of the equipment. The EdgeEV™ should be installed in a location free from:

- Corrosive gases or liquids
- Excessive vibration
- Airborne metallic particles

The enclosure has a single access door on the front of the unit. Minimum clearance as specified by local codes and the NEC should be maintained to ensure safe and convenient operation of these doors and provide access to the interior of the enclosure.

The rear surface of the equipment enclosure may be mounted directly against an appropriately rated surface, such as an interior or exterior building wall, fencing, or other surface. Care should be taken to ensure that front, side, or overhead clearance requirements specified by NEC when installing the EdgeEV.

The EdgeEV™ enclosure shall be mounted on a secure base suitable for the weight of the unit and having a vertical gradient of not more than 5%. The mounting base shall have provision for bottom-entry of underground electrical service conductors.

Note: Please contact your licensed electrician for installations using above ground conductors

A reinforced concrete pad is required for placement of the equipment. It shall use 3,000 - 4,000 psi rated concrete and have dimensions of 48 inches (wide) by 36 inches (deep) with a thickness of 18 - 24 inches to accommodate the weight of the equipment and maintain a stable surface.

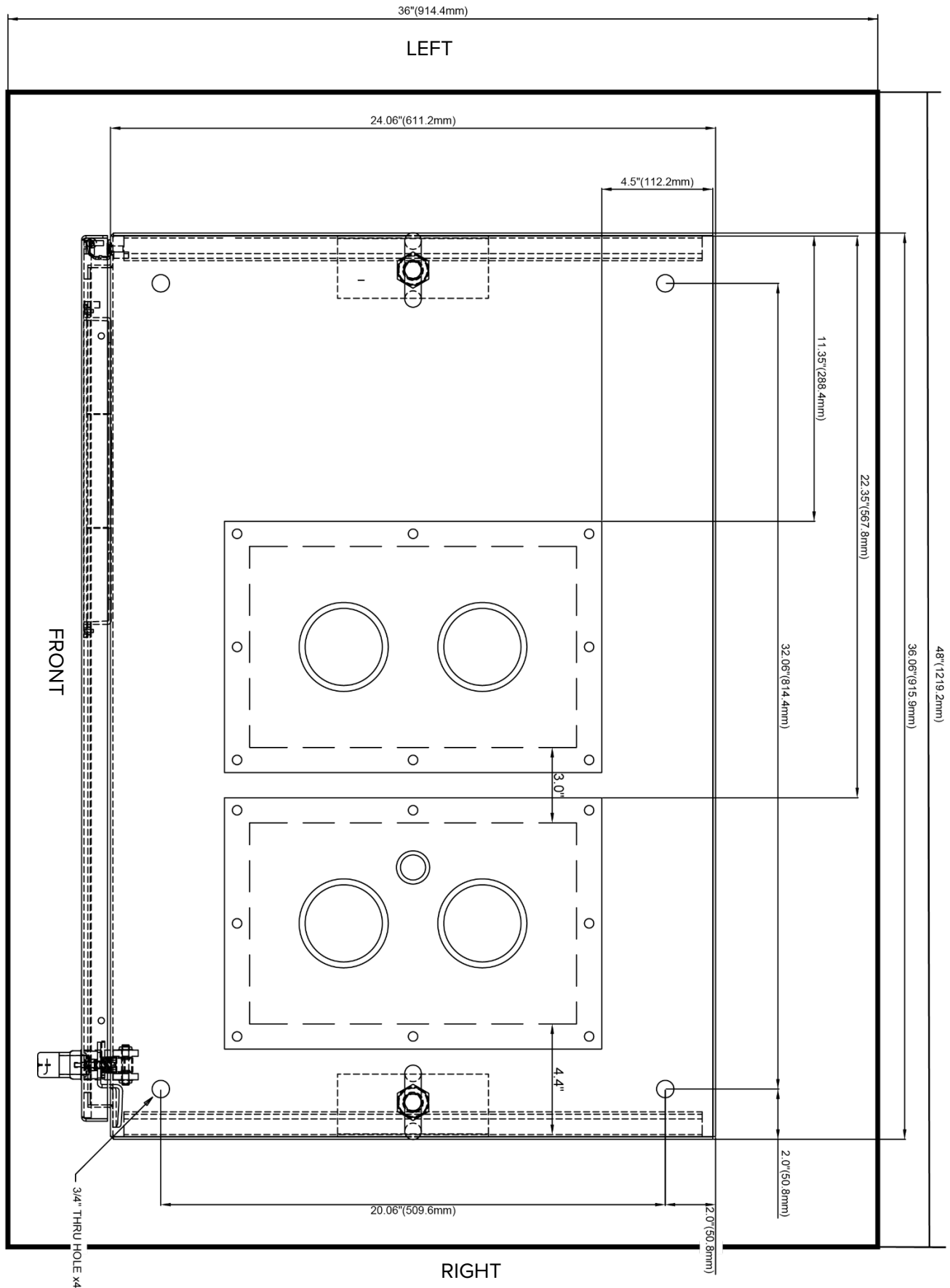
The equipment enclosure should be securely fastened to the concrete pad using appropriately sized stainless anchor studs with suitable flat washers, lock washers and nuts.

Note: It is recommended that stainless steel, seismic-rated, wedge anchors be used with a minimum diameter of 5/8 inch, minimum length of 5 inches and a minimum impeded depth of 3 ¼ inches.

Note: The above noted recommendations may not meet seismic requirements for all regions. Pad thickness and strength should be addressed by a qualified engineer to ensure that local seismic requirements are met.

The EdgeEV™ enclosure provides knockout plates for bottom entry of underground buried conductors supplying single-phase utility service to the equipment and delivering three-phase power to the companion DCFC. A ground rod adjacent to the equipment, complying with the requirements of NEC should penetrate through the concrete base (bonded to concrete reinforcement) to a depth sufficient for a grounding path with minimal resistance.

Concrete Pad Dimensions and Conduit Locations



Service Accessibility

The National Electric Code (NEC 70) dictates minimum clearances for electric enclosures. Minimum clearance recommendations for service accessibility provided in this installation manual are based on NEC 70 but may not be sufficient to meet the requirements of all installation configurations or local code requirements. Please consult the national code and applicable local codes to ensure that the installation is compliant with all code requirements.

High-Voltage Compartment

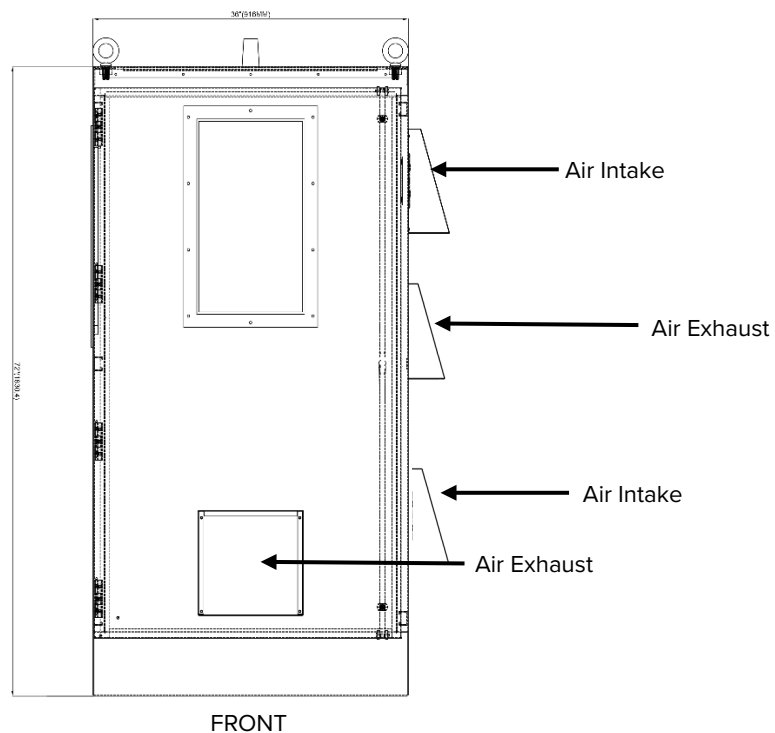
The front panel door covers the full height and width of the equipment enclosure. This entry point provides access to the high-voltage compartment within the enclosure, which contains components that may operate at voltages up to 1000 Volts when energized. The front panel door is fitted with a locking mechanism that prevents the panel door from being opened when the equipment is energized. A safety interlock will prevent the equipment from being energized when the front door is open.

It is important to recognize the inherent dangers for injury and electrocution that exist when equipment in the high voltage compartment is energized. Efforts to defeat the locking mechanism and safety interlock will void liability provisions within the warranty.

Hazard: The EdgeEV is a service-entrance-rated device, which may be connected directly to the incoming utility service conductors. It is important for service personnel to recognize that the 480 V input terminals and input side of the 480 V molded case circuit breaker (MCCB) will remain energized when the disconnect switch for the 480 V single-phase input power is opened.

Equipment Ventilation

Adequate clearance is required to maintain sufficient ambient air circulation for cooling purposes. The enclosure has two entry points for ambient air from outside the enclosure and two exit points for heated air drawn through the equipment. Both entry points are located on the upper right-hand side of the enclosure, while one exit point is located on the lower right-hand side of the enclosure with the other on the lower part of the front panel door.



ENSURE THAT INTAKE AND EXHAUST OPENINGS ARE NOT OBSTRUCTED. If the unit is mounted within a building or small room, ensure that adequate ambient air ventilation is provided to cool the equipment.

Electrical Installation

Routing of Conductors

The EdgeEV™ Power Source provides a cover plate for bottom openings used to facilitate cable entry. Route power cables through supplied openings in the bottom of the enclosure, using appropriate conduit or strain relief devices. The installation contractor is responsible for providing appropriately sized knock-out openings for routing of conductors. Unused conduit holes must be covered with a conduit hole plug.

Continuous metal conduit should be used for all exposed power cables for mechanical protection and to reduce radiated electromagnetic interference (EMI). The conduit must be securely grounded to the unit enclosure and charging station enclosure.

Note: Please ensure that all metal shavings are removed prior to energizing the equipment.

Service Rated Equipment (standard configuration)

The EdgeEV™ Power Source is designed for use as service equipment when a 100% rated molded case circuit breaker (MCCB), external input disconnect switch, service ground conductor terminal (ground lug), and internal grounding electrode conductor are factory installed and the unit is labeled as "Suitable for use as Service Equipment." Consult local electric code for installation guidance.

Source Branch Circuit Protection (optional configuration)

If a suitable input MCCB is not factory installed, branch circuit protection must be installed by the end-user and their installation contractor to protect the circuit supplying single-phase power to the equipment. Branch circuit protection is required to protect both the supply conductor and equipment.

Review accompanying specifications for recommended circuit breaker sizing (both 100% and 80% rated). Appropriately sized fuses may be used for circuit protection. Consult electrical code for proper sizing of fuses. Customer installed branch circuit protection requires a lockable disconnecting means withing sight of the unit as specified by NEC.

Equipment Grounding

- Equipment must be properly grounded in accordance with electrical codes.
- Service ground conductor from the utility service must be connected to the internal grounding lug.
- Equipment grounding rod must be connected to the grounding lug.
- Equipment must be provided with a properly sized conductor in accordance with electrical codes.
- Grounding conductor recommendations are based on solid to semi-rigid stranded copper wire.

Single-Phase Utility Source Power Connections

The EdgeEV™ Power Source provides integrated short-circuit protection for the equipment and supply conductors connecting the single-phase utility supply source to the equipment. The output MCCB selected for this purpose is a 100% rated device as required by NEC. An externally accessible lockable disconnect switch is provided on the EdgeEV™ to facilitate isolation between the single-phase utility supply source and the equipment.

Warning: The 480 V utility service input to the enclosure will remain energized up to and including the input terminals of the input MCCB when the disconnect switch is open. Please note caution labels within the enclosure.

Table 2 provides the recommendations for supply conductors to the EdgeEV™ Power Source based on NEC minimum ampacity requirements for a 75 C (167 F) rated cable at an ambient temperature of 30 C (86 F) used in direct burial applications with three(3) current-carrying conductors. All conductors should be suitably shielded and rated for 480 V equipment.

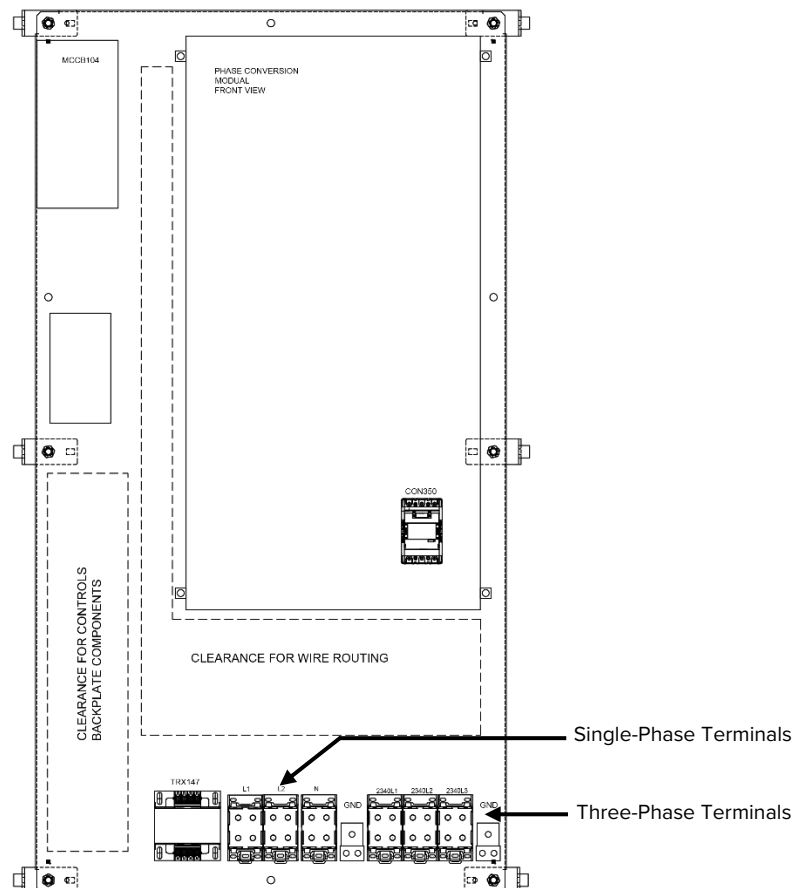
Note: Please consult NEC for de-rating of conductors for other ambient temperature conditions and conductor runs of more than three(3) current-carrying conductors.

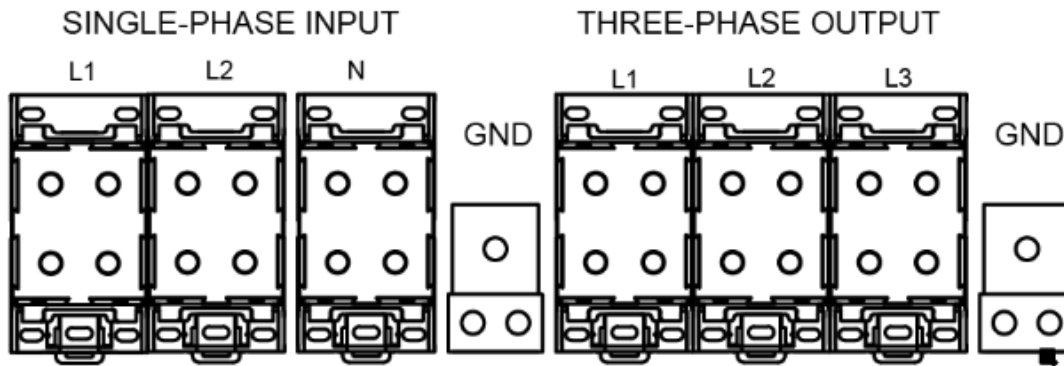
Voltage drop from the utility source to the equipment shall be limited to 3% to ensure proper starting and operation of the equipment and connected DCFC. Increase the wire gauge to provide adequate voltage to the load if voltage drop exceeds 3%.

Table 2 provides specifications and fastening torque for the connection terminals used for the incoming utility single-phase power supply. Connection points within the EdgeEV Power Source are labeled as shown in the illustration below.

Terminal Block

Note: Terminal blocks are located on the bottom of the back panel of the enclosure.





Three-Phase DCFC Load Connections

The EdgeEV™ Power Source provides integrated short-circuit protection for the output conductors connecting the equipment to the DCFC station. The output MCCB selected for this purpose is an 80% rated device as required by NEC. An externally accessible lockable disconnect switch is provided on the EdgeEV™ to facilitate isolation between the equipment and the connected DCFC station.

Table 2 provides the recommendations for load conductors to the DCFC station based on NEC minimum ampacity requirements for a 75 C (167 F) rated cable at an ambient temperature of 30 C (86 F) used in direct burial applications with three(3) current-carrying conductors. All conductors should be suitably shielded and rated for 480 V equipment.

Note: Please consult NEC for de-rating of conductors for other ambient temperature conditions and conductor runs of more than three (3) current-carrying conductors.

Voltage drop from the EdgeEV™ Power Source to the DCFC station shall be limited to 3% to ensure proper starting and operation of the equipment and connected DCFC. Increase the wire gauge to provide adequate voltage to the load if voltage drop exceeds 3%.

The table below provides specifications and fastening torque for the connection terminals used for the incoming utility single-phase power supply. Connection points within the EdgeEV Power Source are labeled as shown in the terminal block illustration.

Terminals Specification and Conductor Recommendations – Table 2

Model Specifications	EdgeEV100™		EdgeEV150™	
Electrical Terminal Configurations				
Temperature Rating for Conductor Termination	75 C (167 F)		75 C (167 F)	
Input and Output Terminals				
Terminal Configuration	Enclosed		Enclosed	
Terminal Openings	Two (2)		Two (2)	
Terminal Conductor Size (min to max)	6 AWG - 500 kCM		6 AWG - 500 kCM	
Terminal Fastening Method	Hex Screw - 3/8 Inch		Hex Screw - 3/8 Inch	
Terminal Fastening Torque	57 Nm (500 lb-in)		57 Nm (500 lb-in)	
Grounding Terminals				
Terminal Openings	Two (2)		Two (2)	
Grounding Lug Conductor Size (min to max)	6 AWG - 250 kCM		6 AWG - 250 kCM	
Grounding Lug Fastening Method	Hex Screw - 3/8 Inch		Hex Screw - 3/8 Inch	
Grounding Lug Fastening Torque	32 Nm (275 lb-in)		32 Nm (275 lb-in)	
Conductor Recommendations (Copper - confirm per local code requirements)				
Ambient Temperature Rating (C/F)	30 C (86 F)		30 C (86 F)	
Conductor Configuration	Single Conductor	Parallel Conductors	Single Conductor	Parallel Conductors
Input Conductor Recommendations (30 C Ambient, NEC minimum ampacity, 3% voltage drop) - Consult NEC and Local Codes				
Minimum Input Conductor Size (Cu)	400 kCM	2/0	750 kCM	250 kCM

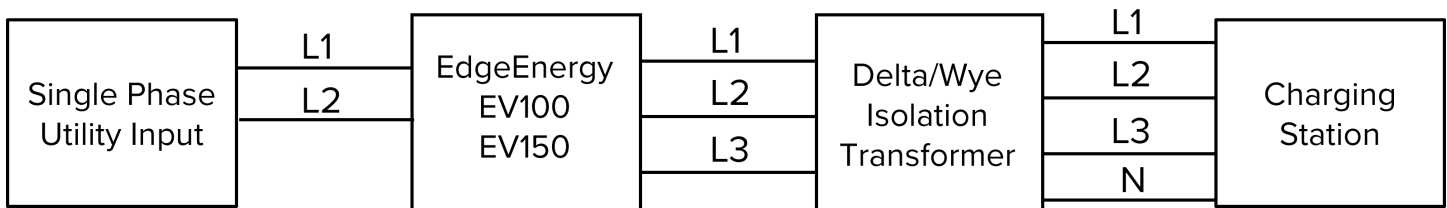
Minimum Ground Conductor Size (Cu)	1/0	4 Awg	2/0	2 Awg
Maximum Distance from Power Source (Cu)	257 m (846 ft)	171 m (562 ft)	347 m (1138 ft)	230 m (756 ft)
Output Conductor Recommendations (30 C Ambient, NEC minimum ampacity, 3% voltage drop) - Consult NEC and Local Codes				
Minimum Output Conductor Size (Cu)	3/0	1/0	250 kCM	1/0
Minimum Ground Conductor Size (Cu)	4 Awg	6 Awg	2 Awg	6 Awg
Maximum Distance to DCFC Station (Cu)	201 m (662 ft)	253 m (831 ft)	215 m (706 ft)	181 m (596 ft)
Conductor Recommendations (Aluminum - confirm per local code requirements)				
Ambient Temperature Rating (C/F)	30 C (86 F)		30 C (86 F)	
Conductor Configuration	Single Conductor	Parallel Conductors	Single Conductor	Parallel Conductors
Input Conductor Recommendations (30 C Ambient, NEC minimum ampacity, 3% voltage drop) - Consult NEC and Local Codes				
Minimum Input Conductor Size (Al)	600 kCM	4/0	1250 kCM	350 kCM
Minimum Ground Conductor Size (Al)	3/0	2 Awg	4/0	1/0
Maximum Distance from Power Source (Al)	234 m (770 ft)	165 m (543 ft)	350 m (1151 ft)	195 m (643 ft)
Output Conductor Recommendations (30 C Ambient, NEC minimum ampacity, 3% voltage drop) - Consult NEC and Local Codes				
Minimum Output Conductor Size (Al)	4/0	1/0	350 kCM	2/0
Minimum Ground Conductor Size (Al)	2 Awg	6 Awg	1/0	4 Awg
Maximum Distance to DCFC Station (Al)	154 m (507 ft)	153 m (505 ft)	183 m (601 ft)	139 m (457 ft)

Caution: The EdgeEV™ Power Source provides a three-phase output with a delta configuration. Nominal line-to-line voltages of 480 Vac are provided in this wiring configuration.

DCFC stations requiring a three-phase output with a wye configuration with nominal line-to-line voltages of 480 Vac and nominal line-to-neutral voltages of 277 Vac will require an optional delta/wye transformer to convert the delta output to a suitable wye output.

Please consult the factory for more information.

Delta/Wye Transformer Configuration



Delta/Wye Isolation Transformer Recommendations

Model Specifications	EdgeEV 100	EdgeEV 150
Delta-Wye Isolation Transformer for Optional 277/480 Volt Output		
Transformer Configuration	Three-Phase Delta - Wye	Three-Phase Delta - Wye
Minimum Transformer Rating	118 kVA	165 kVA

Warning: Under no circumstance should single-phase electrical loads be connected to the manufactured phase (T3) of the three-phase equipment output. Such a connection will provide an incorrect voltage to the single-phase load and may violate electrical code in some areas. Consult applicable electrical codes for guidance.