SERVICE SOLUTIONS

Power Xpress™
Bollard Charge Station
User Guide

Technical Support

1-877-805-EVSE (3873)

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PRODUCT SAFETY

SAVE THESE IMPORTANT SAFETY INSTRUCTIONS.
This manual contains important instructions that must be followed during use of the electric vehicle supply equipment (EVSE). Read all instructions before using the EVSE.

⚠ **WARNING: Do not operate the EVSE with a visibly damaged cable or if the enclosure or connector is broken, open, cracked, or shows any other signs of damage. If your EVSE is damaged, please contact SPX immediately.**

⚠ **WARNING: The EVSE contains no user-serviceable parts. Do not attempt to repair or service the EVSE yourself. If the EVSE requires servicing, contact SPX.**

⚠ **WARNING: Adult supervision is required when using the EVSE with children present.**

⚠ **WARNING: Do not put fingers into the EVSE electric vehicle connector.**

⚠ **WARNING: Disconnect main service power to the EVSE before cleaning the unit. Do not use cleaning solvents to clean any part of the EVSE. Clean enclosure, cable and connector with a clean, dry cloth to remove dust and dirt accumulation.**

⚠ **WARNING: If the device repeatedly trips, seek advice from SPX.**

⚠ **WARNING: Disconnect main service supply or unplug unit to achieve electrical isolation.**

⚠ **WARNING: This EVSE safety device is not a substitute for electrical safety precautions.**

⚠ **WARNING: Use this EVSE within the specified operating parameters: Failure to do so may result in injury or death.**

⚠ **WARNING: Do not tamper or modify this device.**

⚠ **WARNING: If EVSE fails to operate in accordance with the operation manual, do not use this device. Contact SPX for repair or replacement.**

⚠ **WARNING: Ensure that the charge cable is positioned so it will not be stepped on, tripped over, or subject to damage or stress.**

⚠ CAUTION: Incorrect use/operation of the EVSE could result in damage to the vehicle's battery and to the EVSE itself. These damages will void the warranty for the vehicle and the EVSE.

⚠ CAUTION: Do not operate the EVSE in temperatures beyond its operating range of -40°F to +122°F (-40°C to +50°C).

PRODUCT REGULATORY INFORMATION

Environmental Considerations

The EVSE should be recycled according to local laws and regulations at the end of service life.

Product Specification

All EVSE specifications and descriptions are accurate at the time of printing. Products are constantly updated and improved, and SPX reserves the right to make changes at any time, without notice and or obligation.

FCC Declaration of Conformity

This device complies with Part 15 Class-B of the FCC rules. Operation is subject to the following conditions: 1) This device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: Nonauthorized changes or modifications to this product could void its FCC compliance.

Radio and Television Interference

The equipment described in this manual has been designed to protect against Radio Frequency Interference (RFI). However, there are some instances where high-powered radio signals or nearby RF-producing equipment (such as digital phones, RF communications equipment, etc.) could affect EVSE operations. If interference to the EVSE occurs during charging, contact SPX.

FEATURES AND SPECIFICATIONS

Product Features

The EVSE includes ground-fault protection, automatic reset upon power grid loss, ground assurance monitoring, and self-testing capabilities. Manual resetting of the EVSE is not necessary. Exception: European models require manual resetting after ground-fault condition.

Ground-Fault Protection

The EVSE continually provides a safe power supply to the vehicle. If a ground fault is present, the EVSE detects it and cuts power flow, protecting people and the vehicle from electric shock hazard.

Automatic Reset

If mainline-side power supply is interrupted during charging, the EVSE will reset itself automatically and re-attempt charging after mainline-side power supply is restored.

If a problem is associated with a ground fault, the EVSE makes a total of four (4) automatic reset attempts in sequential 15-minute periods. If the charging mode cannot be restored, the appropriate failure indication will be shown on the unit's front panel.

NOTE: Not applicable on European models; European models require pressing the master clear RESET button on the front panel of the EVSE to restore power.

See Table-A in Operating Instructions for LED status indications.

The automatic-reset feature helps ensure the vehicle will be charged and ready to use by automatically restoring power after temporary interruptions (power-grid outages, temporary ground faults [US models only] and power surges).

Ground-Assurance Monitoring

A proper electrical ground is critical to reliable ground-fault protection. The EVSE includes a ground monitoring circuit to verifty the presence of a safe electrical ground.

Self-Testing

To ensure proper functionality and safety, the EVSE includes self-testing and diagnostics that are automatically performed before each charging cycle.

Product Specifications

Voltage and Wiring (120V above ground)	• 240VAC single-phase: L1, L2, and safety ground. • 208VAC 3-phase, wye-connected: Any 2 phases and safety ground. • 240VAC 3-phase, delta-connected: with center tap on one leg, use only the two phases on either side of the center tap. The two phases must both measure 120V AC to ground. Do not use the third leg (208V "stinger").
Voltage and Wiring (230V above ground - Europe)	230V AC single-phase: LINE, NEUTRAL, and EARTH
Current and Frequency	• Current –Model dependent; see unit specification label • 50/60Hz
Cable Length and Connector	Maximum: 25 ft (7.62 m) per NEC 625 Model dependent; see unit specification label (18 ft typical)
Dimensions	Customer specific
Weight	Bollard: Approximately 20 lb/ft EVSE: 35 lb
Operating Temperature	-40°F to +122°F (-40°C to +50°C)
Storage Temperature	-58°F to +176°F (-50°C to +80°C)
Ratings and Agency Approvals	Enclosure Type NEMA 4X – indoor/outdoor use, watertight • ETL approved to UL and CSA standards • CE compliant w/3rd-Party ETL testing • FCC Part 15 Class-B compliant

Agency Approvals: Standard Compliances through a National Registered Testing Lab (NRT NRTL)

North American Operation

- FCC Part 15 Class-B
- UL 2594
- UL 2251
- UL 62
- UL 60950-1
- UL 1998
- UL 2231-1 & -2
- CSA C22.2 #60950-1
- CSA C22.2 #107.1
- SAE J1772
- NEC Article 625

European Union Operation

- IEC 61851-1
- IEC 61851-21 & -22
- IEC 60950-1
- IEC 61000-6-1 EMC Immunity
- IEC 61000-6-3 EMC Emissions
- IEC 62196 Coupler, Type 1, Type 2
- IEC 60204-1, Safety for servicing electronic equipment

Technical Specifications

Output Amperage	32A max, model dependent (See output spec. label on side of EVSE)
Input Voltage Range	175 VAC–264 VAC
Frequency	50/60Hz
Ground Fault Trip Level	17.5 mA (20 mA max)
Ground Assurance	50K Ohm max (North American); 100K Ohm max (Europe)
Surge Protection	6kV at 3000A
Operating Humidity	Up to 95% noncondensing at 1060 hPa
Operating Temperature	-40°F to +122°F (-40°C to +50°C)
Storage Temperature	-58°F to +176°F (-50°C to +80°C)
Ground Fault Test	Automatic at startup (firmware controlled)
Ground Fault Retry	Four (4) automatic retries at 15 min. intervals (per UL2231-2); not applicable to European models
Master Clear	For system reset (Overrides ground-fault retry and all other fault conditions)
Power Indication	Green LED
Charge Status Indicators	• Amber (ready) • Green (plugged in) • Green flashing (charging) • Red flashing (fault)
Enclosure	NEMA 4X and per UL 50E

OPERATING INSTRUCTIONS

⚠ CAUTION: For use with electric vehicles only.

⚠ CAUTION: If the unit fails to operate per the operating instructions, do not use the device. Contact an SPX qualified technician for service or repair.

⚠ CAUTION: Ventilation not required. Do not install unit in or around flammable or combustible materials.

⚠ CAUTION: If the red STATUS indicator is illuminated, see Troubleshooting section for instructions.

1. Verify service supply power is available; green POWER indicator LED is illuminated.
2. Retrieve EVSE vehicle cable and coupler from rear-mounted holder (stowed position); amber STATUS indicator light is illuminated.
3. Connect EVSE coupler to vehicle; STATUS indicator LED changes to solid green.
4. EVSE performs safety self-test (audible mechanical clicking sounds); STATUS indicator begins to flash green, indicating vehicle is charging (vehicle may indicate charging with an audible signal or a light indicator; varies by vehicle model). When charge is complete, the STATUS LED will change from flashing green to solid green.
5. Disconnect EVSE coupler from vehicle; STATUS indicator changes to amber.
6. Return cable and coupler to rear-mounted holder (stowed position) at EVSE unit.

NOTE: EVSE will automatically resume charging upon restoration of lost service-supply power (US models only).

EVSE POWER AND STATUS LED INDICATIONS

POWER LED		STATUS LED		CONDITION
(OFF)	○	(OFF)	○	NO SERVICE SUPPLY POWER
GREEN SOLID	●	AMBER SOLID	●	EVSE POWERED; VEHICLE COUPLER NOT CONNECTED
GREEN SOLID	●	GREEN SOLID	●	WAITING TO CHARGE
GREEN SOLID	●	GREEN BLINKING	✸	VEHICLE IS CHARGING
GREEN SOLID	●	1 OR 2 RED BLINKS EVERY 2 SECONDS	✸	PILOT CHARGING ERROR*
GREEN SOLID	●	SOLID RED THEN GREEN BLINK EVERY 2 SECONDS	● ✸	GROUND FAULT DETECTED*
GREEN SOLID	●	RED BLINKING	✸	GROUND MONITOR INTERRUPTED*
GREEN SOLID	●	RED SOLID	●	OPERATION FAULT*
GREEN SOLID	●	(OFF)	○	OPERATION FAULT*

*See Troubleshooting section for suggested solutions.

○ - No illumination

● - Solid illumination

✸ - Flashing illumination

TROUBLESHOOTING

If there is a charging issue proceed with the following steps. If the issue persists after three attempts call SPX at 1-877-805-EVSE (3873) for assistance.

Problem Indicated by LED Status	Solution
Pilot charging error	1. Verify supply-side power. The green POWER LED should be on. If green POWER LED is off, locate load center/panel and reset breaker. 2. Press the master clear RESET button on the front panel of the EVSE to attempt a charge-restart. 3. If the red STATUS LED remains on, disconnect the EVSE coupler from the vehicle charge port, wait 10 seconds, and reconnect the coupler.
Ground fault detected	1. Disconnect main service power at service panel. 2. Disconnect the EVSE coupler from the vehicle. 3. Inspect the EVSE connector and the vehicle charge port verifying both are clean and undamaged. If vehicle charge port needs cleaning, follow manufacturer instructions for cleaning. Clean EVSE connector with a dry or damp cloth if necessary. 4. Restore main service power. 5. Reconnect the coupler to the vehicle port.
Ground monitor interrupted	1. Disconnect main service power at service panel. 2. Disconnect the EVSE coupler from the vehicle. 3. Inspect the EVSE connector and the vehicle charge port verifying both are clean and undamaged. If vehicle charge port needs cleaning, follow manufacturer instructions for cleaning. Clean EVSE connector with a dry or damp cloth if necessary. 4. Restore main service power. 5. Reconnect the coupler to the vehicle port.
Operation fault	1. Verify supply-side power. The green POWER LED should be on. If green POWER LED is off, locate load center/panel and reset breaker. 2. Press the master clear RESET button on the front panel of the EVSE to attempt a charge-restart. 3. If the red STATUS LED remains on, disconnect the EVSE coupler from the vehicle charge port, wait 10 seconds, and reconnect the coupler.

Ground Fault Circuit Interrupt (GFCI) Tripped

If the EVSE detects a ground fault, power will be interrupted and the STATUS LED will illuminate (red flash with intermittent green). The EVSE will attempt to reset automatically and re-attempt charging (see note below on European models). If the fault condition persists after an initial automatic attempt, per the code, the EVSE waits 15 minutes before a second attempt is made. A total of four attempts will be made to restore vehicle charging. If the charging mode cannot be restored, the STATUS LED will illuminate solid red, and the unit will stay in fault mode.

NOTE: European models—Automatic reset feature after ground fault (STATUS LED will be solid red) does not apply to European models. European standards dictate that user intervention is required by pressing the master clear RESET button on the front of the EVSE housing. If ground fault condition clears, EVSE will resume charging.

Missing Ground

If the EVSE detects a missing ground connection (rapid red flashing LED), power will be interrupted and the unit will not be capable of charging vehicle until a ground connection has been detected. Disconnect service power (breaker) and disconnect vehicle coupler from vehicle and contact a qualified SPX technician to validate the presence of a proper ground.

MAINTENANCE

⚠ **WARNING: Do not attempt to service the EVSE. The EVSE has no user-serviceable components.**

If the unit is not operating properly, contact SPX at 1-877-805-EVSE (3873) for assistance.

The EVSE requires no scheduled maintenance, only periodic cleaning.

Always be sure to return the charging cable and coupler to its proper storage area to avoid potential damage to the unit and to prevent potential trip hazards.

Regularly inspect the EVSE unit and charging cable for signs of damage. If the EVSE unit or charging cable are damaged contact SPX for service or repair.

CLEANING

⚠ CAUTION: Always turn off service power (supply-side power at the main service panel) before cleaning the EVSE and/or charging cable.

⚠ CAUTION: Never use cleaning solvents, abrasive powders/liquids or scouring pads to clean the EVSE and cable/coupler.

Clean the EVSE unit and cable/coupler with a soft damp or dry cloth to remove dust or dirt.

STORAGE AND MOVING

Unit storage temperature range: -58°F to +176°F (-50°C to +80°C)

Contact SPX for EVSE relocation or storage requirements at 1-877-805-EVSE (3873).

LIMITED WARRANTY

THIS WARRANTY IS EXPRESSLY LIMITED TO THE ORIGINAL PURCHASER OF SERVICE SOLUTIONS U.S. LLC EVSE PRODUCT.

- **Power Xpress Bollard** is warranted against defects in materials and workmanship for one year from the date of installation.
- **EVSE Cables and Connectors** are warranted against defects in materials and workmanship for 90 days from the date of delivery.

This warranty is only valid to the original purchaser of the EVSE and is not transferable. All warranty claims must be made within the warranty period and proof of purchase must be supplied. This warranty does not cover the cost of freight to return the EVSE to Service Solutions U.S. LLC.

The sole and exclusive remedy for any EVSE found to be defective is repair or replacement, at the option of Service Solutions U.S. LLC. The existence of a defect shall be determined by Service Solutions U.S. LLC in accordance with procedures established by Service Solutions U.S. LLC. No one is authorized to make any statement or representation altering the terms of this warranty. This warranty covers only those defects that arise as a result of normal use of the EVSE and does not cover any other problems including those that arise as a result of abuse, neglect, improper maintenance, care or modification, operation outside of the EVSE's specifications or in a manner inconsistent with instructions regarding use. Service Solutions U.S. LLC does not make any representation or warranty regarding the continuous availability of electrical service to the EVSE.

This warranty gives the original purchaser specific legal rights. The original purchaser may also have other rights which vary from state to state. To the extent that this warranty is inconsistent with applicable law, this warranty will be deemed modified to be consistent with such local law.

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The EVSE should be installed only by a licensed electrician and in accordance with all local and national codes and standards.

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EL-50600-17 Rev. A

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