

Installation Manual

SMP GENERATION 1.5

SMP-12

SMP-15

SMP-18

SMP-21



If you have any questions, please contact us at 450-902-1355,
toll-free at 1-833-717-1355, or by email at support@rve.ca.

rve.ca

V6

IMPORTANT!

Please note that **installation step 10** of this manual is mandatory for proper SMP activation.

WARNING

Field electrical installers must follow proper safety precautions and all local electrical code requirements during electrical installation, wiring, and CT installation. During normal operation of this device, hazardous voltages are present which can cause severe injury or death. It is strongly recommended that only qualified, properly trained personnel should perform installation and servicing.

NO-RESPONSIBILITY DISCLAIMER

The information presented in this publication has been carefully checked; however, Recharge Véhicule Électrique (RVE) assumes no responsibility for inaccuracies. The information provided in this document is subject to change without notice.

AFTER-SALES SERVICE

To report any issue, please contact RVE by email at support@rve.ca. Prior to returning any merchandise to RVE, a Return Merchandise Authorization (RMA) number should be obtained from RVE.

STATEMENT OF CALIBRATION

The accuracy and calibration of the instruments presented in this document are traceable to Measurement Canada, a division of Innovation, Science and Economic Development Canada.

CONFIGURATION

The Smart Metering Panel can only be configured by Intellimeter Canada Inc. at its factory and according to the customer's provided panel schedule.

INSTALLATION CHECKLIST

Make sure that you have received the right SMP as per your order and packing list. If you receive a damaged product, please contact RVE by email at support@rve.ca as soon as possible.

INSTALLATION DISCLAIMER

RVE does not accept any responsibility and will not be liable for any loss, damage or expense of any kind whatsoever and howsoever caused by improper installation of its products, be it indirect, special, incidental or consequential damages (including but not limited to damages for loss of business, loss of profits, interruption or the like). The SMP is compatible with the majority of Electric Vehicle Supply Equipment (EVSE) available on the market, however it is the customer's responsibility to ensure the compatibility of all the EVSEs functionalities with the panel's load shedding.

REGULATORY REQUIREMENTS

Installer is responsible for ensuring that all safety and local electrical codes are followed.

WARRANTY

Internet connection required (minimum 1 Mbps upstream and downstream) to access the panel's power consumption reports and activate the manufacturer's warranty. The warranty is valid against defects in the built-in controls for one year from the date of delivery, provided that the panel is connected to the Internet and can be accessed remotely. The warranty is limited to the equipment and components supplied by RVE Inc. The installer of the panel is responsible for providing after-sales service to the end customer and for on-site visits if necessary.

SALES CONDITIONS

- Once the technical drawings have been approved, any cancellation and/or modification will automatically be refused by RVE.
- Non-returnable and non-refundable after purchase.
- The lead time is 15 weeks from RVE's receipt of approval of the technical drawings.
- Please refer to the installation manual for technical requirements and warranty conditions associated with the product.

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INTRODUCTION

The Smart Metering Panel, hereafter referred to as SMP, manages Electric Vehicle Supply Equipment (EVSE) power flow to optimize existing electrical assets and maintains operational power limits. The SMP consists of a meter module, relay controller and relay panel (see image below). The typical system has one 3Φ main meter and up to twenty-one (21) 2Φ meters with 2Φ power relays

FIGURE 1. SMP

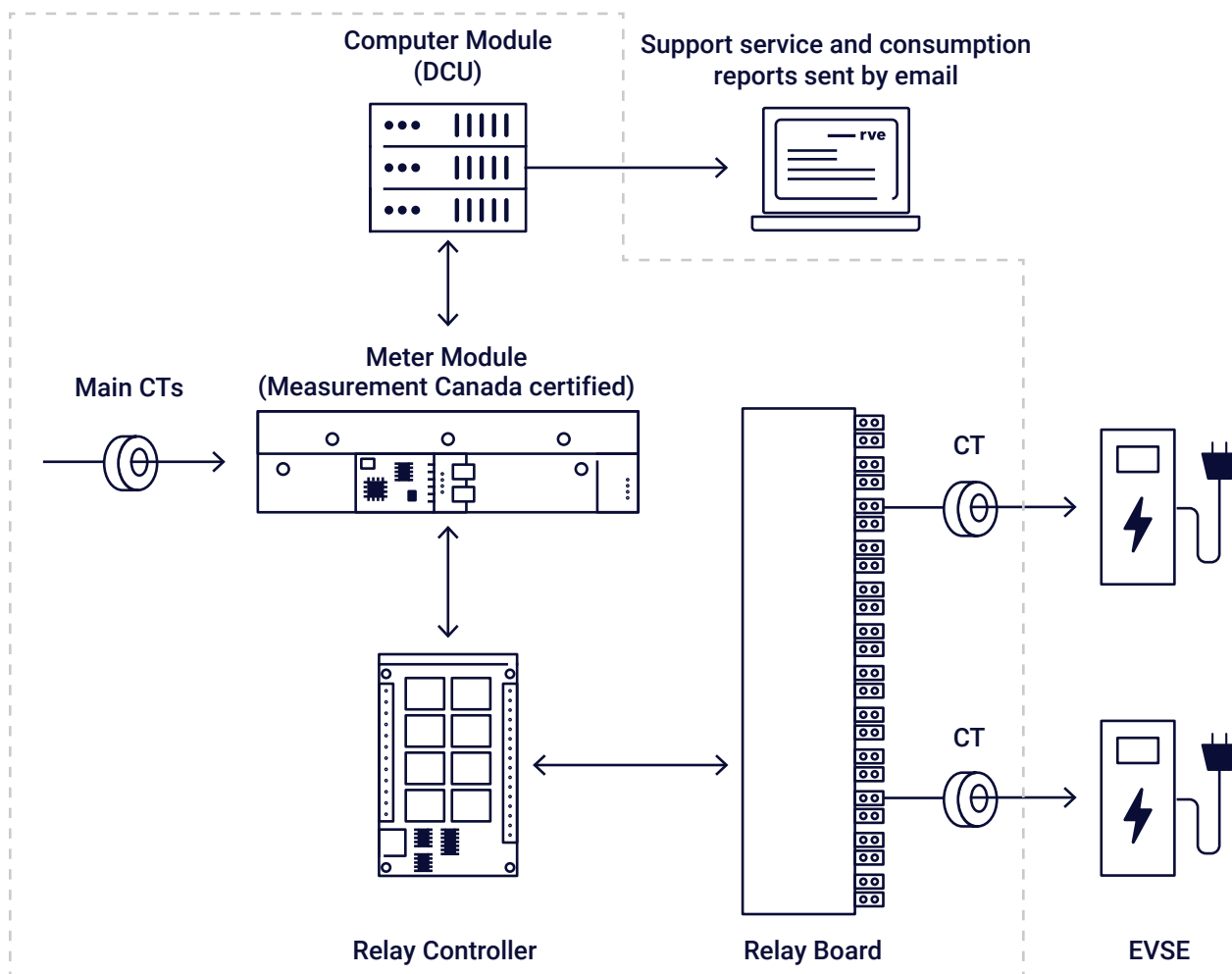
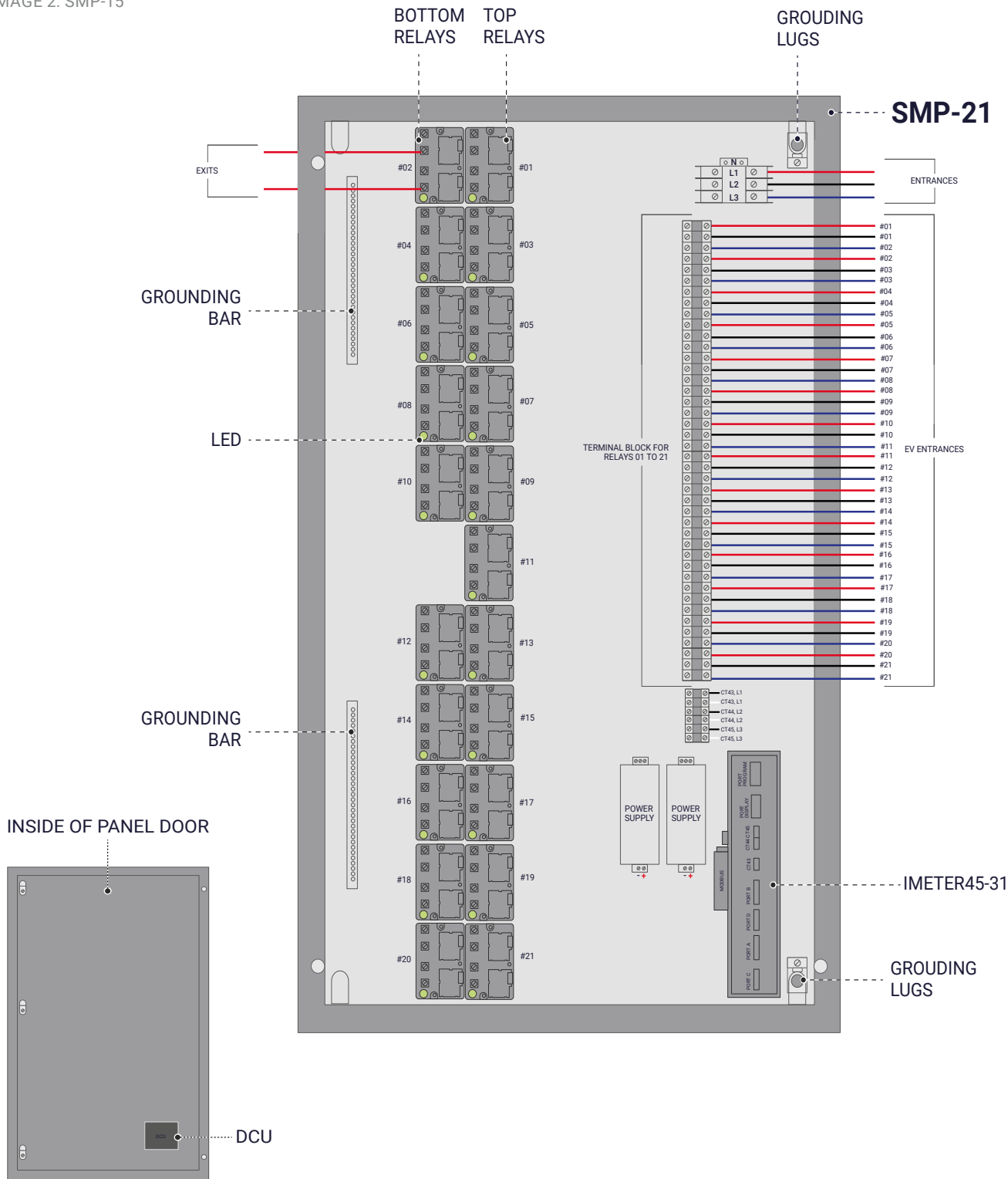


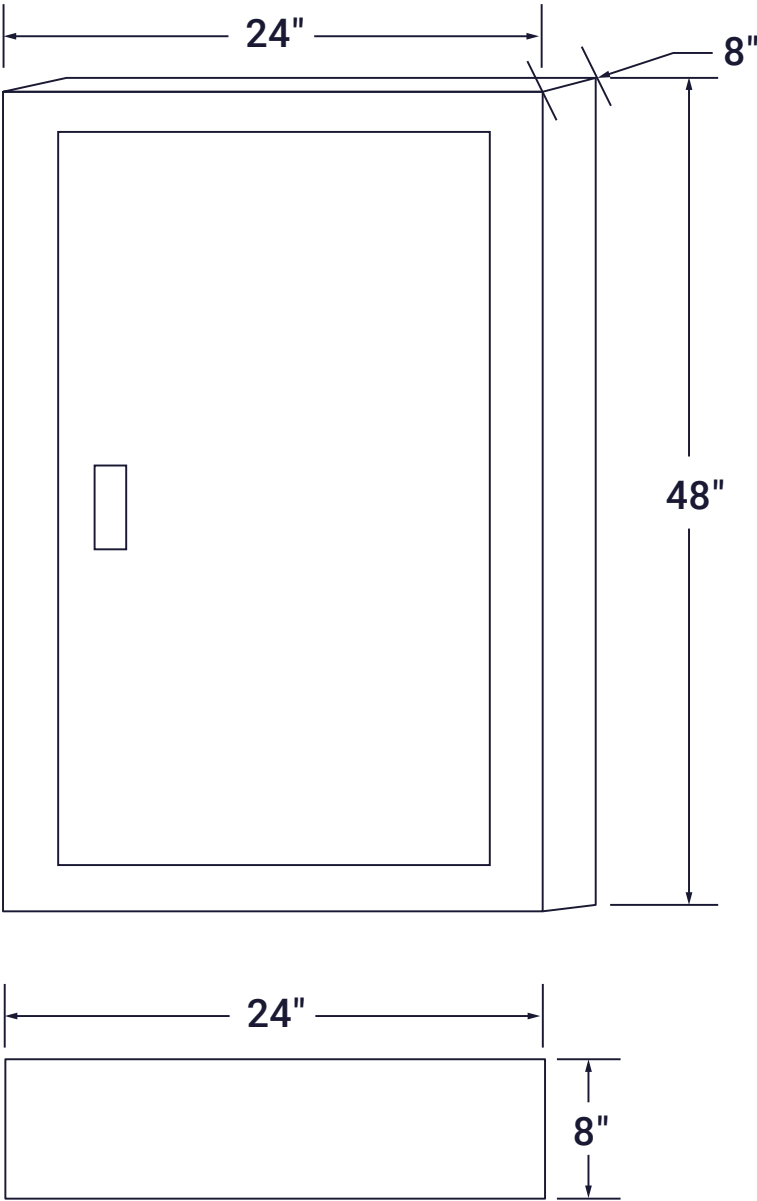
DIAGRAM OF PANEL ENCLOSURE

IMAGE 2. SMP-15



DIMENSIONS

IMAGE 3. DIMENSIONS OF THE SMP GENERATION 1.5



DESCRIPTION

The SMP is an integrated switching control and measuring system with current transformers for the submetering modules (or branch modules), magnetic latching power relays of up to 240/60A and current transformers for metering the main power supply of the distribution panel (distribution panel not included).

METERING DEVICE

The metering device is an i-meter-45 which is configured to have a three-phase main meter and a two-phase meter per branch.

LOAD CONTROL

The SMP is designed to optimize the use of the building's electrical infrastructure by ensuring that it does not exceed the operational limits of the building's electrical infrastructure while powering up to 21 EVSE. SMPs sharing a common power source can be paired together.

The SMP is compatible with Level 2 EVSE: 208/240VAC, maximum 32A.

* For EVSE up to 48A, please contact us.

INSTALLATION STEPS

STEP 1

Unpack the SMP. Warning: the panel is attached to the shipping pallet with 4 screws;



STEP 2

2.1 Turn the mounting brackets 90° (vertically);

Before



After



2.2 Install the SMP on the wall;

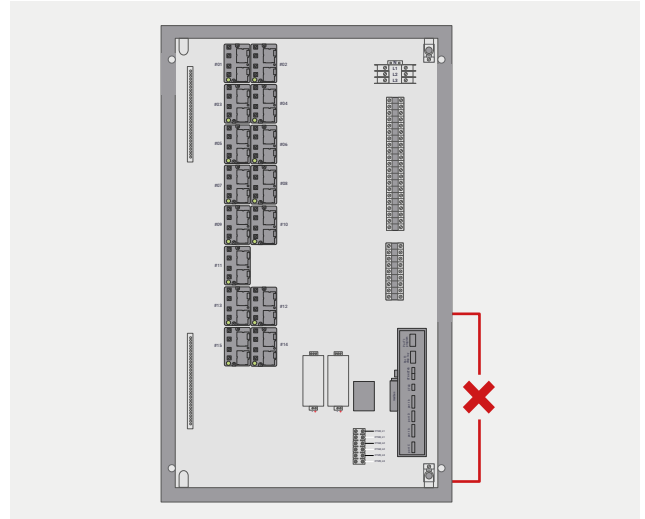
2.3 Check solidity.

STEP 3

Switch off the power supply to the distribution panel.

STEP 4

Drill the holes in the enclosure. (Avoid area marked in red below)

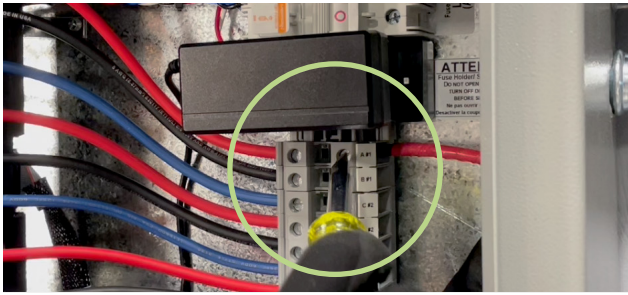


STEP 5

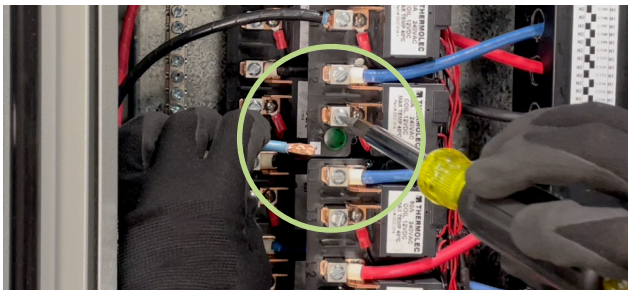
5.1 Connect the ground;

5.2 Connect the power cable of the SMP to a 15A three-phase circuit breaker, and the neutral conductor to the terminal block provided. Follow the phase order indicated on the SMP;

5.3 Connect the distribution panel according to the order of the phase indicated on the terminal blocks in the SMP;

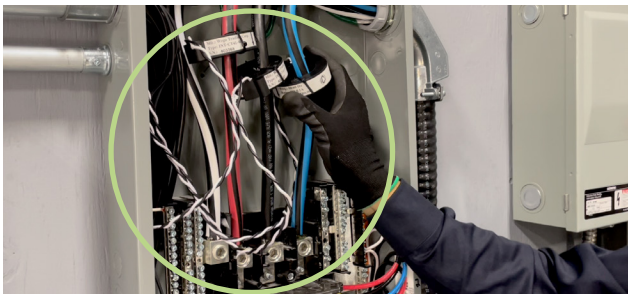


5.4 Connect the EVSE from the power relays (terminal blocks T1, T2).



STEP 6

Install the current transformers to the 3 main power phases of the distribution panel and connect them into the SMP terminal blocks provided for this purpose.

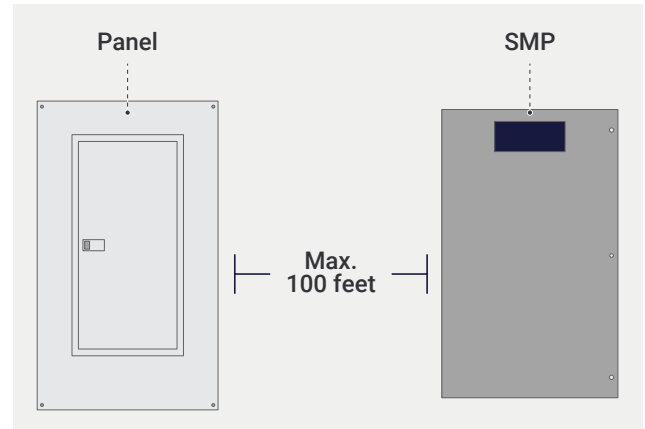


NOTE

It is important to note that these are 0-400A* solid core current transformers. They cannot be installed without disconnecting the main electrical conductors from the distribution panel.

* For larger capacity current transformers, please contact us.

Extension of Current Transformer Wires: The current transformers that are supplied have a 3m wiring; however, it is possible to extend the wires. Additional wiring must be 300V, minimum 16 AWG (1.5mm²), 2 conductors shielded (1 pair) (ex: 16/1PR PVC FT4 or equivalent). A maximum distance of 100 feet between the SMP and the distribution panel must be respected.



STEP 7

Connect a network cable providing Internet access to the Ethernet port (RJ45) on the black computer module of the SMP.



STEP 8

8.1 Open the service entrance circuit breakers (3-poles) and the charging station circuit breakers (2-poles) in the distribution panel;

8.2 Turn on power to the distribution panel.

STEP 9

Check that the SMP is properly powered; if the screen inside the SMP is lit, the panel is powered. If this is not the case, please contact RVE technical support by phone at 450-902-1355 or toll-free at 1-833-717-1355, or by email at support@rve.ca.

STEP 10 (MANDATORY)

10.1 Fill in the Register of relays and parking spaces on the inside of the panel door, assigning parking spaces where charging stations have been installed to the corresponding SMP relays.

10.2 Take a photo of the register and send the photo to RVE at support@rve.ca or scan this QR code to submit it through a form.



STEP 11 (OPTIONAL)

The hardware required to allow the SMP to be locked with a lock is supplied (lock not included). If needed, please refer to the instructions included with the supplied hardware for installation.

IMPORTANT NOTICES

Ensure that the Ethernet connection is active by checking that the Ethernet port LEDs are flashing.

When the system starts up, you will hear the relays gradually open and close.

There is a 5-minute delay between the activation of each relay to allow time for a vehicle potentially connected to a EVSE to the maximum charging current. This ensures that the maximum amperage set point of the SMP is not reached before moving on to the next relay.

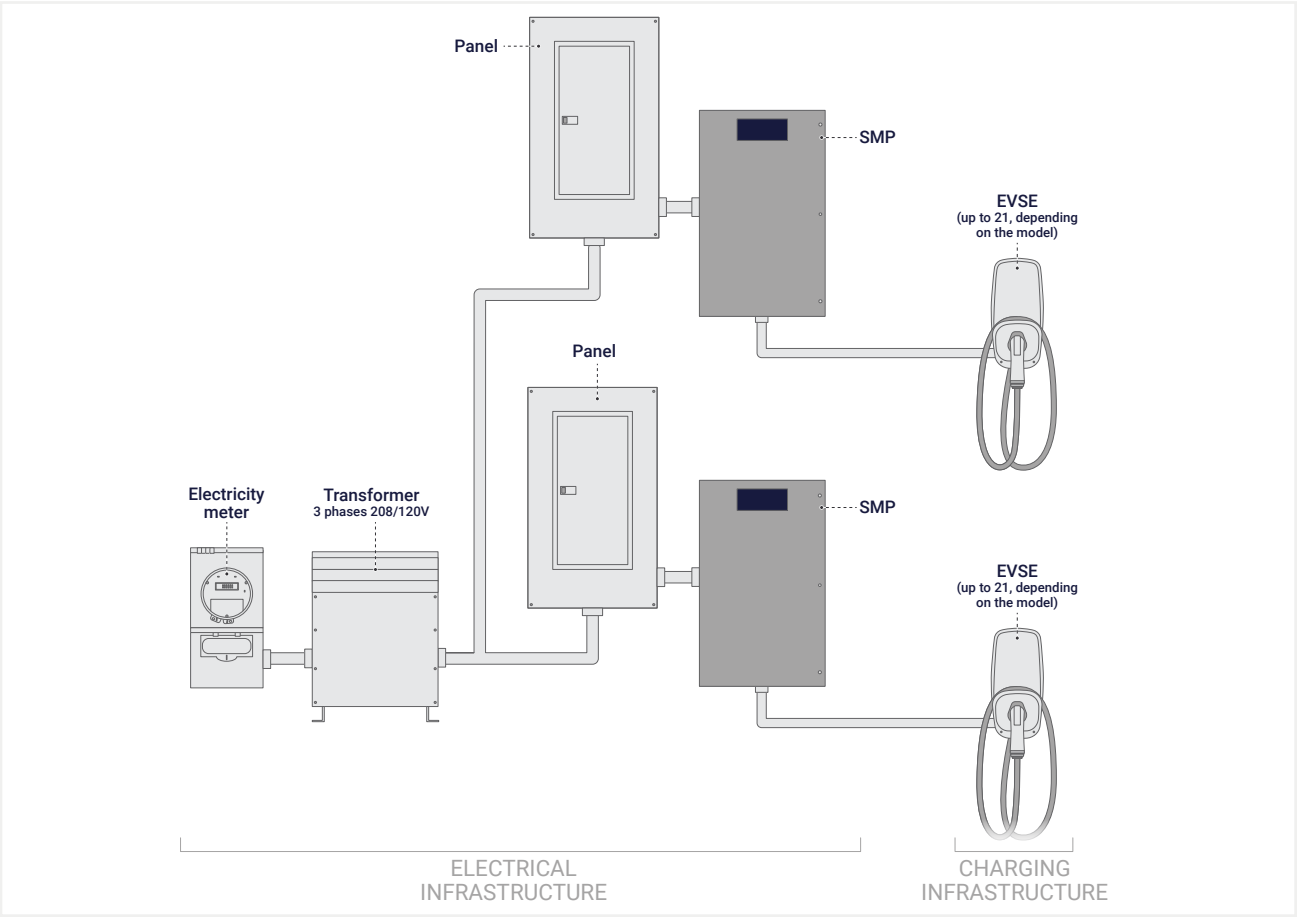
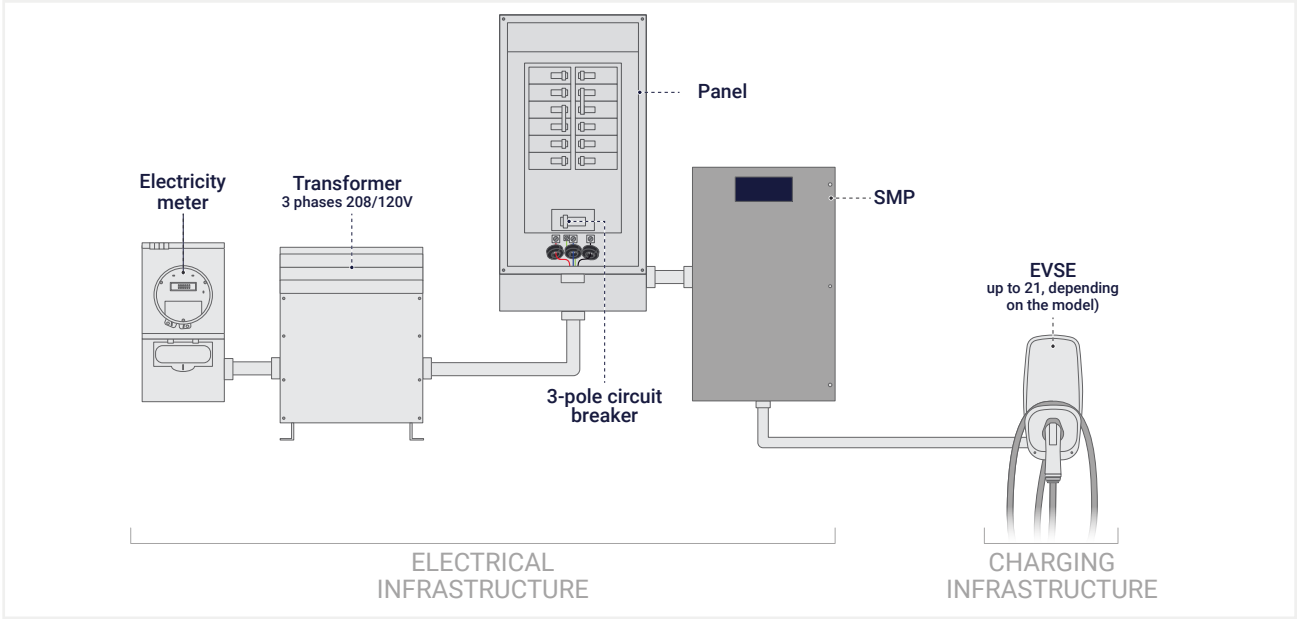
The maximum amperage set point is configured at the factory according to the information you provided when placing the order. RVE's technical support team can validate and modify this threshold remotely; please email support@rve.ca if needed.

RESTART OF THE SMP FOLLOWING A POWER OUTAGE

After a power outage, the SMP restarts and supplies the charging stations one by one. This operation generally takes around 1 hour, to avoid overloading the electrical infrastructure. However, the time required to power up the charging stations may be affected by the number of vehicles connected and the amount of energy available in the building.

We suggest that you always keep the vehicles plugged in. If an electric vehicle's charging station is not yet powered, it should become operational again within a few hours of the end of the outage.

INSTALLATION EXAMPLES



Technical Support

To report any problems, please contact
RVE by email at support@rve.ca.

