



SEC-R

SERVICE ENTRANCE CONTROLLER

The SEC-R is a Wireless Electrical Vehicle Energy Management System designed specifically for townhouse applications with private garages. The SEC-R monitors the incoming utility feeders and distribution equipment in electrical rooms and wirelessly communicates with the downstream TH-R which monitors the townhouse service panels and controls the private EV chargers. This system provides a cost effective solution to permit EV chargers for all owners in townhouse applications.

Key Features:

- Monitors up to 3 Main Distribution Points in real-time, each being either 3_{ph} or 1_{ph} (Up to 9 CT's)
- Robust Wireless Mesh Long Range Radio communication between electrical rooms and townhouses
- Prevents expensive underground trenching and wiring required for communication between the electrical rooms and all townhouses.
- Prevents expensive utility service upgrades
- Fail-safe hardware and software design for maximum safety
- Allows each owner to install an EV Charger of their preference
- No Subscription Fees
- Designed and Manufactured in Canada Compact Design (12"H x 10"W x 5"D)
- CSA Approved

Control Operation:

The main constraint for installing EV chargers in most townhouses are the main service entrances which typically do not have enough capacity to allow all owners to install EV chargers. When an EVEMS system is installed which monitors all main electrical distribution points and individual unit breaker panels, the EV charging loads will efficiently utilize all available electrical capacity in the distribution system.

Our SEC-R monitors in real-time up to three main distribution points which then controls and balances up to 8 independent EVSE groups ensuring electrical distribution safety and maximum electrical efficiency. The SEC-R utilizes FIFO logic to balance all TH-R groups as needed to ensure maximum system up-time while safeguarding the electrical distribution system as to not exceed 80% at any measured point. It will automatically turn off TH-R groups as the system demand approaches the maximum limit and turn the TH-R groups back on as the system demand is reduced.

Specifications:

- EVEMS: Electrical Energy Management System
- Can monitor up to three distribution points, each being either 3_{ph} or 1_{ph}. (Up to 9 current transformers)
 - The most common applications include:
 - Main service entrance
 - Metering Stack A Feeders (Optional)
 - Metering Stack B Feeders (Optional)
 - Current Transformer input ratings range from 0-100A up to 0-5,000A (CT's ordered separately specific to project)
- Ensures all EVSE loads are turned off once any measured point exceeds 80% of its rating
- Balances programmed control groups providing maximum system up-time
- Utilizes FIFO controls ensuring balance between all control groups.
 - The first group to turn **off** is the one which has been **on** the longest
 - The first group to turn **on** if the one which has been **off** the longest
 - In the rare case the system load requires one or more groups to remain off for extended periods, our controls will cycle through the groups on a time basis to ensuring balanced system up-time for all groups
- Requires 120V hardwired connection. Dedicated 15A-1P circuit recommended.
- Communicates with downstream TH-R EVEMS equipment via long range radio utilizing mesh technology for excellent reliability
- Enclosure dimensions are 12"H x 10"W x 5"D
- Supports OCPP 1.6 and 2.0
- No monthly or annual monitoring or subscription fees

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