## Eaton's EV smart charging panel

#### Powering up the future for Multi-Unit Residential Buildings

Make it easy to deploy, manage and charge EVs at multi residential properties without overloading power networks.

Now is the time, growing numbers of electric vehicles (EVs) and the infrastructure to support them is crucial. It's the start of the electric revolution.



100% of all vehicles sales in Canada targeted to be EVs by 2035









Eligible for Canadian EV infrastructure grants & rebates

# Design for demand and flexibility with inbuilt features

The Evolute<sup>™</sup> is the solution for EV charging infrastructure in Multi Unit Residential Buildings (MURBs) - both for new constructions and retrofits.

Manufactured in Canada, the Evolute<sup>™</sup> is powered with technology and intelligence by Eaton and Evolute Power.

Without relying on Wi-fi and compatible with any charging stations and NEMA receptacles, the Evolute<sup>™</sup> delivers power management at the source, to maximize the charging infrastructure.

Built & tested as per CSA C22.2 No.29, it comes with different amperage configurations, allowing for a compact architecture, that remains versatile and scalable.





#### Smart multi-metering

Built-in individual smart meters track the usage of each owner's consumption as well as the entire system. The data is stored in a secure Canadian-based cloud server.



#### **Easy monitoring**

The automated billing platform is seamless and easy to set up. The Evolute<sup>™</sup> is flexible and can charge owners based on time-of-use or flat rate.



#### Load Management

The Evolute<sup>™</sup> software utilizes algorithms to maximize (2X, 3X, 4X or greater) the available power, ensuring that it is distributed equally to all users over time.



#### Surge protection (optional)

The entire system and downstream charging stations are protected from unwanted electrical surges that may occur in the building.



#### No Wi-Fi Required

Evolute<sup>™</sup> does not rely on Wi-Fi to operate and does not require interconnectivity between the charging stations, allowing huge savings on the overall communication infrastructure.

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#### Remote On / Off

The Evolute<sup>™</sup> app gives each owner full remote control of their charging station via the controllable breaker in the panel. It also permits to set automatic charging schedules.



#### Evolute<sup>™</sup> Components

#### Eaton Evolute<sup>™</sup> Panelboard

Compact, versatile and easily scalable architecture developed for increasing energy demands.

#### Eaton Controllable Breakers

Remotely operated bolt-on circuit breakers, up to 50A (feeding up to 40A EV chargers).

#### Evolute™ Intelligent Software

PLC controller-based software that doesn't rely on Wi-Fi and allows for multiple scenarios following dedicated and customisable load sharing algorithms.

#### Visual Interface

For easy monitoring and billing the dashboard can be accessed via mobile interface or web browser.

#### Evolute<sup>™</sup> Gateway

Separate device, isolated from the Evolute <sup>™</sup> panel, and connected via ethernet connection. It serves as the link between the PLC and the Evolute <sup>™</sup> cloud server that stores the data for remote access by users.

## How Does it Work?

- The Evolute <sup>™</sup> panel uses controllable breakers that are constantly measured and monitored by the system. Each breaker feeds one dedicated EV charging station.
- The embedded local PLC controls all aspects of the Evolute<sup>™</sup> panel and manages which breakers are enabled or disabled by sending them ON/OFF commands – enabling or disabling the charging stations.
- The Evolute<sup>™</sup> panel will cycle through users over a predefined cycling time, permitting a limited number of vehicles to charge at any given time.
- The number of vehicles permitted to charge is based on a pre-set upper current limit for each phase of the panel, where this threshold will not be exceeded.
- When the upper power limit is reached, the next car that plugs in onto the system will be placed in a queue and will start charging if 2 parameters are met:
  - 1. Is the car requesting power?
  - 2. Have connected cars achieved a pre-established initial block of energy?
- If the answer is Yes to both, the car that started charging first, in relation to all other cars, will be removed from the power, allowing the new car to start charging.
- The new car will have an opportunity to achieve its block of energy before it is removed. The car that was removed now enters its queue for sharing.
- Cars will be rotated around in this way throughout their charge cycle. Cars will remain connected and charging if the upper limit of each panel is not reached and will only drop off when the battery is full, or the owner disconnects their cars.



## Create new possibilities with smart, connected charging

#### Specifications:

Voltage:	120/208V 3Ph 4W		
Amperage:	400A –up to 20 EV chargers 600A –up to 32 EV chargers Contact us for higher amperage		
Incoming type:	Main Lugs Only (bottom)		
Dimensions:	400A –H72 x W28 x 5.75D 600A –H90 x W28 x 5.75D		
Protection devices:	EV Controllable breakers (up to 50A 2P) MCCB & miniature circuit breakers		
Multi-metering:	ANSI C12.20.0.5 Revenue Grade Accuracy Integrated Module		
Interface:	Admin/User Dashboard Mobile application		
Certification:	CSA C22.2 No. 29		
Surge Protection:	Optional		
Warranty:	As per Eaton's T&C 25000-C		

EVOLUTE™ EV Smart Panels			
Model	Main Entry	Maximum Capacity	Dimensions
<b>EVO-400</b> 400A, 42cct, 208Y/120V, 3Ph 4W, 10kAIC	Main Lugs Only - Bottom Cable Entry	20 EV charging stations	72"H x 28"W x 5.75"D
<b>EVO-600</b> 600A, 72cct, 208Y/120V, 3Ph 4W, 10kAIC	Main Lugs Only - Bottom Cable Entry	32 EV charging stations	90"H x 28"W x 5.75"D

#### Compatible EV charging stations 32A and 40A + Pedestals **Scenario EV Charger** Model / Part # **Description Product Max Power** Data **Sheet** Rating 32A If using 40A feeder GMEV32BR-WC-C EV smart breaker wall charger (hardwired) 7.7kW (240V) breaker in the Click here Evolute<sup>™</sup> panel GMEV32BR-WCPL-C EV smart breaker wall charger (with NEMA 14-50 plug) 6.7kW (208V) 40A If using 50A feeder GMEV40CME1B-WC Green Motion Building wall charger (hardwired) breaker in the 9.6kW (240V) Click here Evolute<sup>™</sup> panel 8.3kW (208V) GMEV-PED Single Pedestal For installation of EV <u>Click here</u> charger on pedestal GMEV-DPED Dual Pedestal





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