



Each of our devices are inspected and approved by Intertek a Nationally Recognized Testing Laboratory (NRTL) and equivalent to UL or CSA approval.

Intertek



Many devices use latching relays that can leave the controlled device in a "powered state" indefinitely if the controller fails. Our energy managers use fail-safe technology that leaves our devices in a powered off state and thus prevents this issue.

Our patented automatic load management system or EV energy management system (EVEMS / EMS) provides the ability to install up to a 90A / 75 FLA end device (or 80A electric vehicle charger) on an existing electrical service that would otherwise cause overloading issues. No need for an electrical panel or service upgrade. Compatible with all major EV manufacturers and charge rates.

#### KEY FEATURES:

- Allows a 80A EV charger or any 90A/75 FLA end device on a 200A panel (other options available)
- Fast and easy to install: 30-45 min.
- Approved for general use or as an EVEMS by Intertek (ETL)
- Longest charge times due to intelligent current monitoring.
- No need to disconnect the main service wires.
- No extra breakers needed.
- Solar grid tie installation compatible.
- Real-time reading of the total power consumption of the electrical panel.
- Bi-Directional capability
- Remote shutdown override equipped
- Multi-Residential Compatible

\*This device does not need additional breakers to what is required to feed the 240-208VAC end device to be controlled. The service size and end device current is to be set by the installer. See installation manual. Designed and manufactured in Canada. Inspected and labeled by Intertek in Canada.

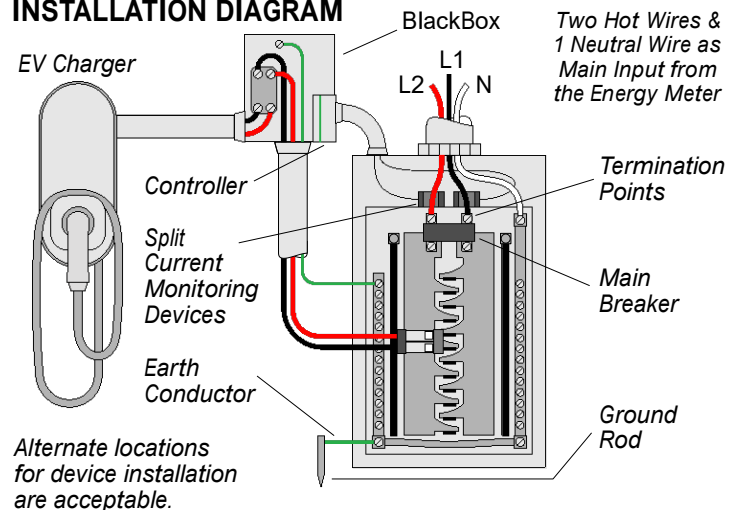
For more information email: [info@blackboxelectrical.com](mailto:info@blackboxelectrical.com) or go to [www.blackboxinnovations.com](http://www.blackboxinnovations.com)

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## SPECIFICATIONS

<b>Electrical service to be monitored</b>	Main Breaker: 125 - 200 Amp. Volts: 208, 240VAC or 120/208, 120/240VAC
<b>Max power of device controlled</b>	Max Current: 75 FLA / 90 Amp Continuous Resistive Volts: 208, 240VAC or 120/208, 120/240VAC
<b>EV charger or end device to be controlled</b>	240-208V, Single Phase* 55 - 90 Amp Load *3 Phase available upon request
<b>Model numbers by type:</b>	
<b>EVEMS240-200-90A and 3R</b> for 125, 150, 200 Amp Main Electrical Service Breaker Size	
<b>Voltage</b>	240/208V or 120/240V AC single phase or 3 phase (upon request)
<b>Main Lug Wire Size &amp; Torque</b>	#14-2 AWG (Cu only) <b>Torque for Cu 75°C: 50-54 in-lbs (5.5 Nm)</b>
<b>Contactor Insulation System</b>	120°C, Class B
<b>Frequency</b>	50 or 60 Hz
<b>Operation Ambient Temp</b>	<b>NEMA 1:</b> 34°F to 104°F (1°C to 40°C) <b>NEMA 3R:</b> -22°F to 104°F (-30°C to 40°C)
<b>NEMA 1 Dimensions*</b>	L: 10" x W: 10" x D: 6" – 12lbs
<b>NEMA 3R Dimensions*</b>	L: 10 ¼" x W: 10 ½" x D: 10 ¼" – 13 lbs
<i>*Dimensions and weight are approximate figures and subject to change without notice.</i>	

#### INSTALLATION DIAGRAM



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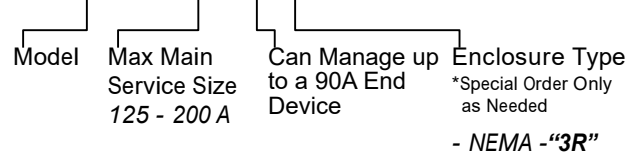


**INCLUDED**

- Electric Vehicle Energy Management System
- Split Core Current Monitoring Devices (CT)
- Installation Manual
- Parts Bag: Zip Ties, Ground Connector, Wire Nut, 2 Steel Locknuts, Offset Nipple.

**MODEL NAMING CONVENTION:**

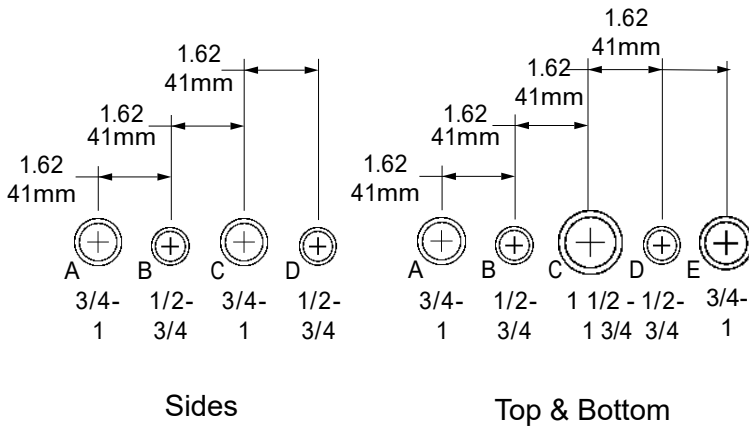
**EVEMS240-XXX-XX-XX**



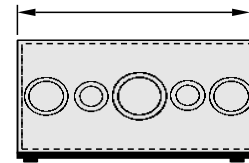
**ENCLOSURE DIMENSIONS \***

	Inches	mm
<b>A</b>	10	254
<b>B</b>	10	254
<b>C</b>	6	152.4

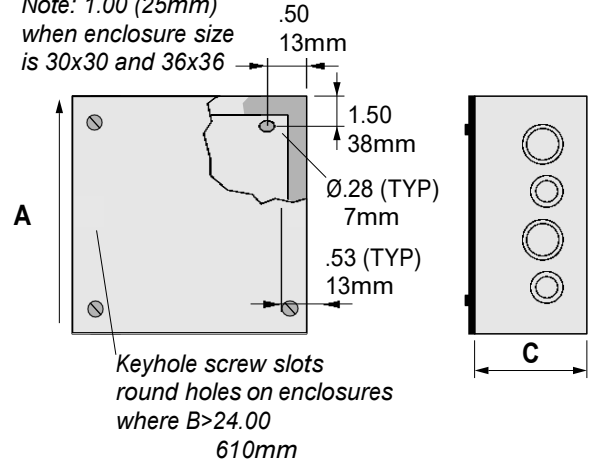
**CONDUIT SIZES  
Knockout Pattern  
(from outside of box)**



**B**



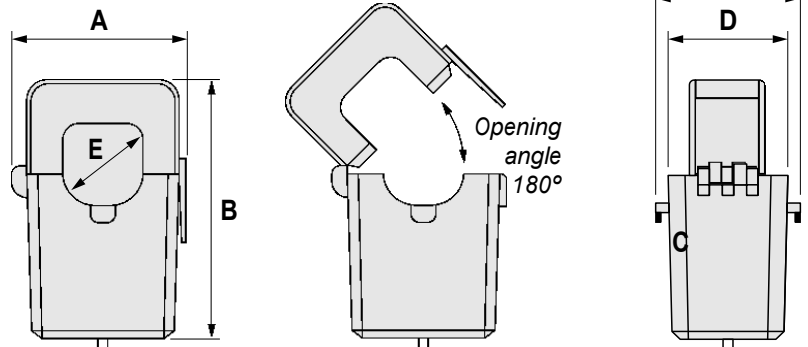
Note: 1.00 (25mm) when enclosure size is 30x30 and 36x36



**Split Core Current Monitoring Device**

**Model EVEMS240-200-90A DIMENSIONS \***

	Inches	mm
<b>A</b>	2.09	53
<b>B</b>	2.95	75
<b>C</b>	1.63	41.4
<b>D</b>	1.35	34.2
<b>E</b>	0.94	24



Lead length 20 feet or 6m

\* All measurements approximate

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Energy Managers can be used to control general-purpose devices that can tolerate the power being shut off when necessary up to a max of 75FLA/90A, as indicated on the labeling for easy reference by inspections.

All settings are applicable for EV chargers or other loads that tolerate switching the power off when required. When using other loads that are not referred to in this chart use the next higher current setting than the device's current rating.

## EVEMS240-200-90A & 3R

Main Electrical Service Monitored Breaker Size	End Device Controlled Max Current Draw	DIP Switch 1	DIP Switch 2	DIP Switch 3	DIP Switch 4	DIP Switch 5
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Settings Below are for Main Breakers Rated at 80% Continuous Load Only

125	55	OFF	OFF	OFF	OFF	OFF
125	60	OFF	OFF	OFF	OFF	ON
125	65	OFF	OFF	OFF	ON	OFF
125	70	OFF	OFF	OFF	ON	ON
125	75	OFF	OFF	ON	OFF	OFF
125	80	OFF	OFF	ON	OFF	ON
125	85	OFF	OFF	ON	ON	OFF
150	60	OFF	OFF	ON	ON	ON
150	65	OFF	ON	OFF	OFF	OFF
150	70	OFF	ON	OFF	OFF	ON
150	75	OFF	ON	OFF	ON	OFF
150	80	OFF	ON	OFF	ON	ON
150	85	OFF	ON	ON	OFF	OFF
150	90	OFF	ON	ON	OFF	ON
200	60	OFF	ON	ON	ON	OFF
200	65	OFF	ON	ON	ON	ON
200	70	ON	OFF	OFF	OFF	OFF
200	75	ON	OFF	OFF	OFF	ON
200	80	ON	OFF	OFF	ON	OFF
200	85	ON	OFF	OFF	ON	ON
200	90	ON	OFF	ON	OFF	OFF

Settings Below are for Main Breakers Rated at 100% Continuous Load Only

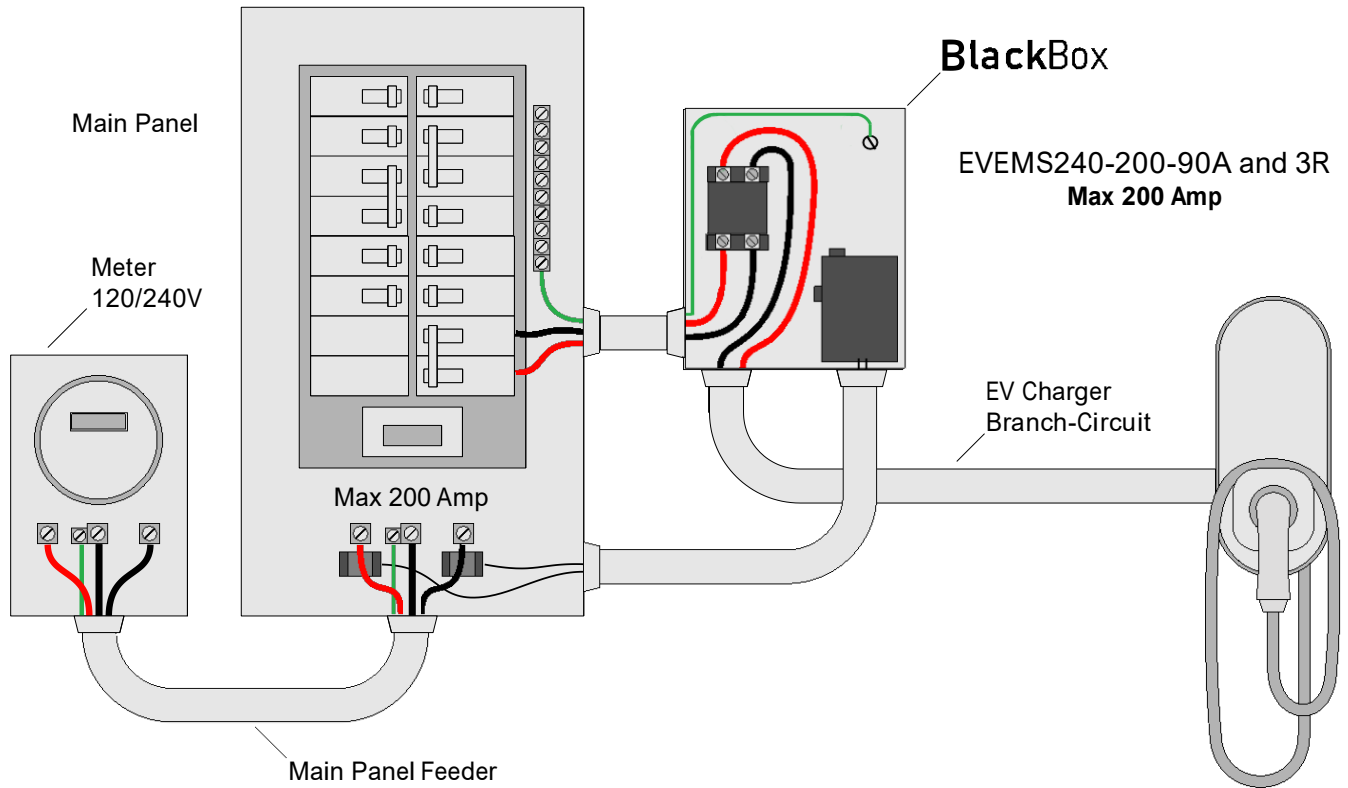
125	60	ON	OFF	ON	OFF	ON
125	70	ON	OFF	ON	ON	OFF
125	80	ON	OFF	ON	ON	ON
150	60	ON	ON	OFF	OFF	OFF
150	70	ON	ON	OFF	OFF	ON
150	80	ON	ON	OFF	ON	OFF
200	60	ON	ON	OFF	ON	ON
200	70	ON	ON	ON	OFF	OFF
200	80	ON	ON	ON	OFF	ON
200	90	ON	ON	ON	ON	OFF

Single Circuit Load Sharing Operation	ON	ON	ON	ON	ON
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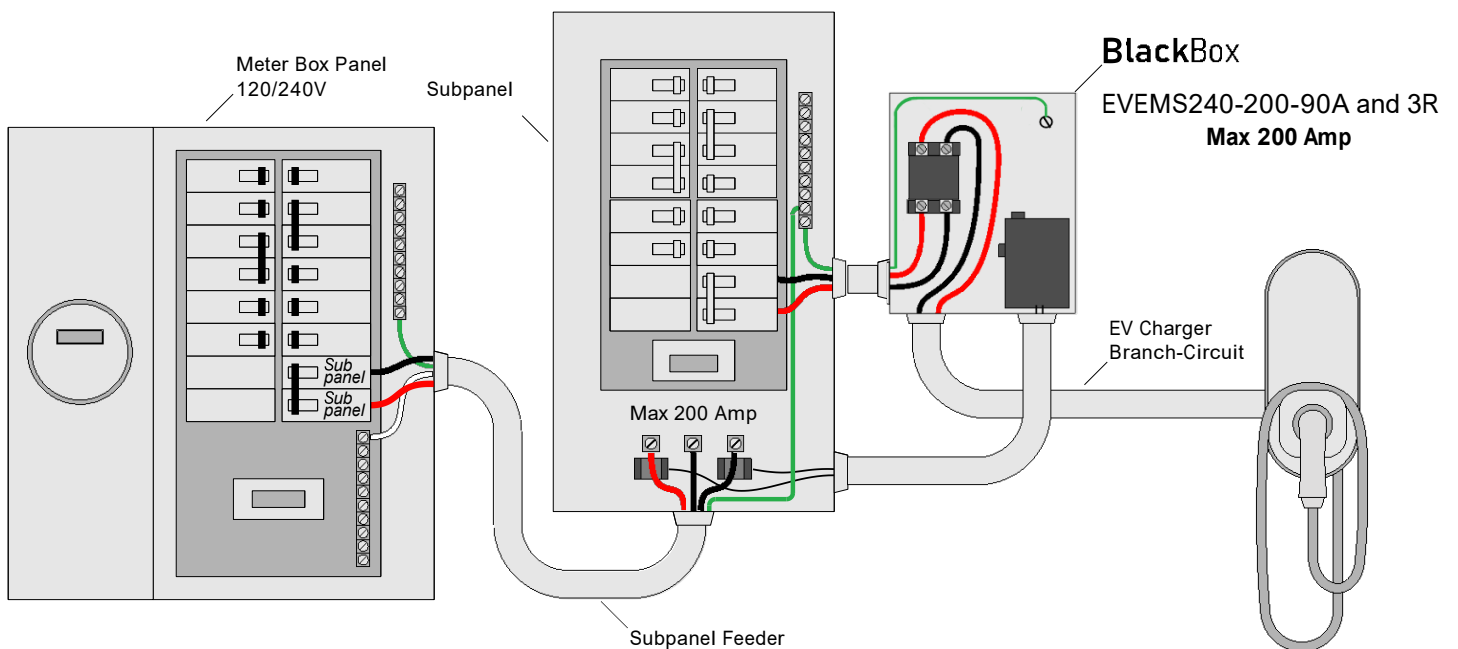
SCAN HERE FOR INSTALLATION MANUAL  
&  
INSTALLATION VIDEO



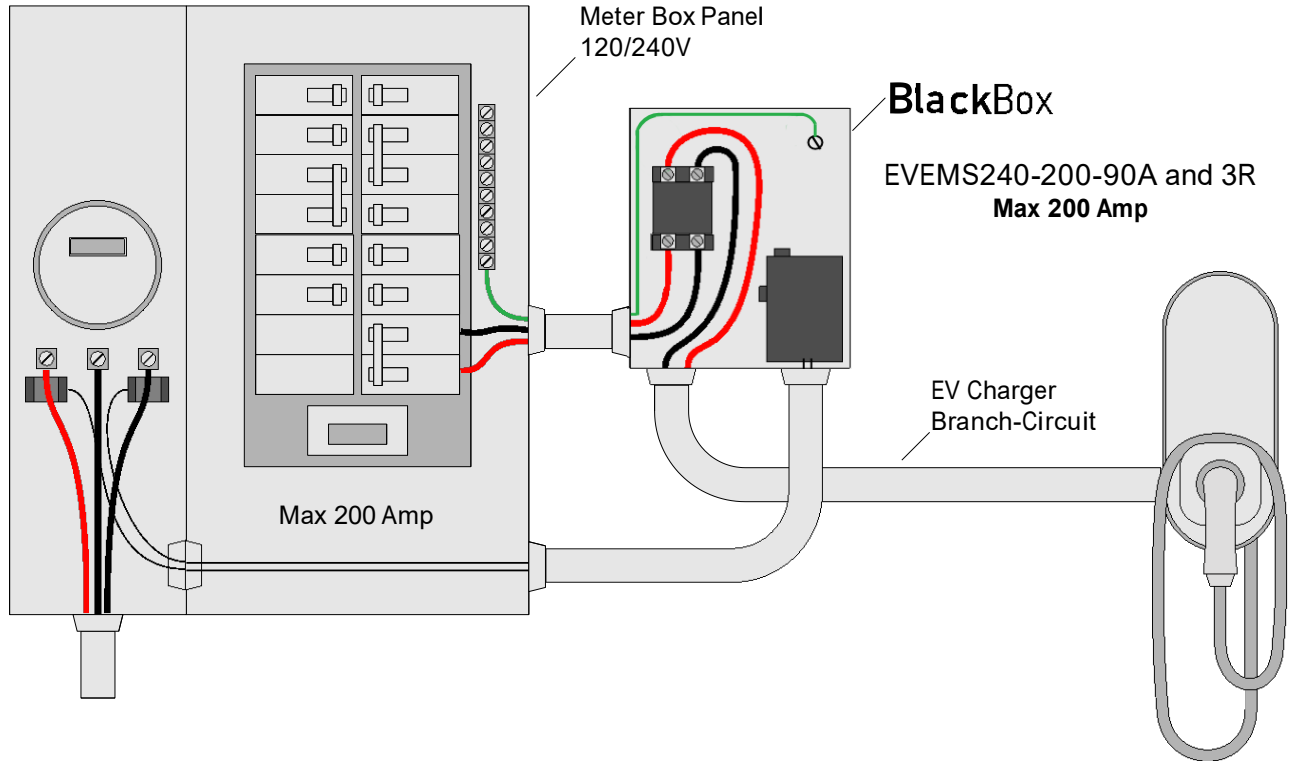
## WITH MAIN PANEL



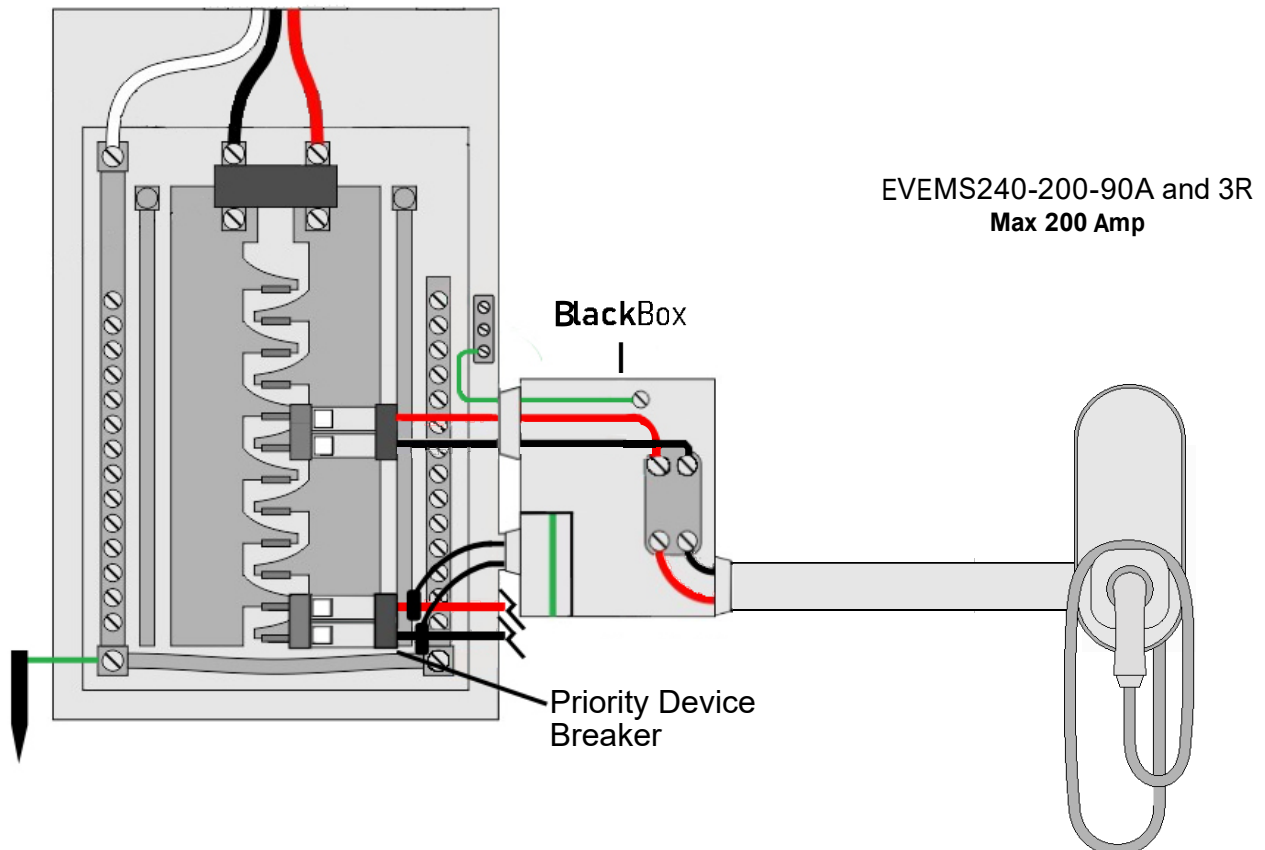
## WITH SUBPANEL



# WITH METER BOX PANEL



# SINGLE CIRCUIT LOAD SHARING



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