Green Motion
EV smart breaker charger

GMEV32BR-JB

Description

Eaton Green Motion EV smart breaker charger combines fast AC charging at 7.7kW, revenue-grade metering, remote access, all built inside a circuit breaker. This forward-thinking solution provides additional versatility with multiple installation options for maximum flexibility. The EV smart breaker charger is intended for charging plug-in hybrid and all-electric vehicles and is compatible with the Society of Automotive Engineers J1772 charging standard.

Design features

- 32A, 7.7kW, AC level 2 charger
- 2P, 40A (208/240V) smart breaker
- 1" per pole EV charging smart breaker in plug-on and bolt-on styles
- Ability to control breakers remotely – ON, OFF, adjustable rate of charge
- ±0.2% accurate metering as per ANSI C12.20
- Complies with SAEJ1772 standards
- Bi-directional communication via Wi-Fi
- Real-time access to device state: ready to charge, charging, fault
- Access to the breaker through the internet (cloud connectivity)
- Local access to the breaker through User Datagram Protocol (UDP)
- Open platform with support for OCPP (Open Charge Point Protocol) 1.6J through Eaton cloud APIs (documentation available)
- Metering information: current, voltage, frequency, power, energy [4-quadrant: Forward, Reverse, Total, Net]
- Data streams: real-time & historical waveforms
- Waveform capture capability on power disturbances including Undervoltage, Overvoltage, and Overcurrent events. Waveform captures of a minimum of 200msec at a resolution of 1kHz or per-cycle RMS
- Wi-Fi signal strength indication
- 4MB of local data storage to limit the possibility of data loss
- Green Motion Driver app for iOS and Android to commission and control the charger

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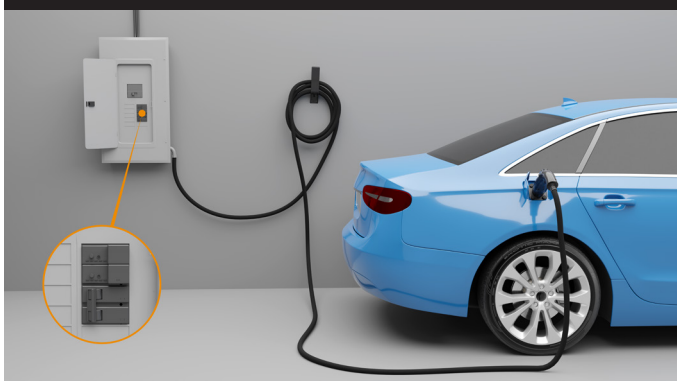
Product selection

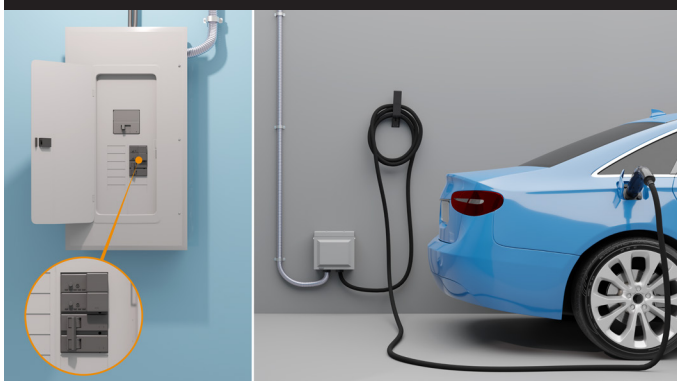
Table 1. Charger installation kits

Direct connect kit



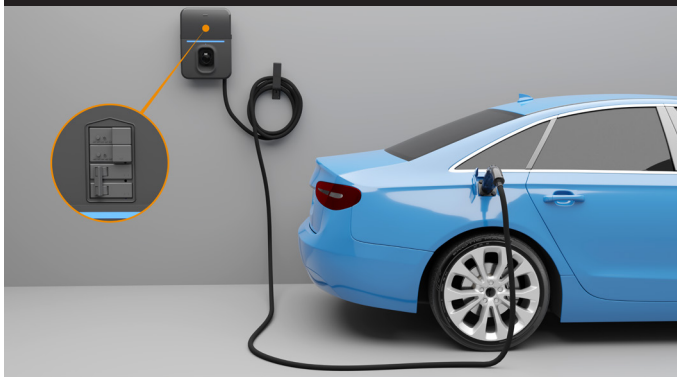
GMEV32BR-DC, GMEV32BAB-DC:
The EV smart breaker charger installs directly in the loadcenter close to where the electric vehicle will be parked.

Direct connect kit + junction box



GMEV32BR-JB, GMEV32BAB-JB:
The EV smart breaker charger installs directly into the loadcenter and includes a junction box for when the electric vehicle is parked further away.

Electric vehicle wallbox kit



GMEV32BR-WB, GMEV32-WBPL:
The EV smart breaker charger installs directly into the electric vehicle wallbox for additional versatility and more modern design.

Single and dual pedestal kits

GMEV32BR-PED, GMEV32BAB-DPED:
The EV smart breaker charger installs directly in the pedestal to make charging more accessible in open parking areas.

Table 2. Catalog number guide

Catalog Number:

GM EV 32 BR - JB

- **GM** — Green Motion
- **EV** — EV Charger
- **32** — 32A
- **BR** — plug-on breaker
- **BAB** — bolt-on breaker
- **JB** — Junction Box
  - **DC** Direct Connect
  - **JB** Junction Box
  - **WB** Wallbox
  - **WBPL** Wallbox plug-in
  - **PED** Single post pedestal
  - **DPED** Dual post pedestal

Catalog number	Description
GMEV32BAB-DC	EV DIRECT CONNECT KIT 32A, BAB 2P 40A
GMEV32BR-DC	EV DIRECT CONNECT KIT 32A, BR 2P 40A
GMEV32BAB-JB	EV JUNCTION BOX KIT 32A, BAB 2P 40A
GMEV32BR-JB	EV JUNCTION BOX KIT 32A, BR 2P 40A
GMEV32BR-WB	EV WALLBOX KIT 32A, BR 2P 40A
GMEV32BR-WBPL	EV WALLBOX KIT PLUG-IN 32A, BR 2P 40A
GMEV32BR-PED	EV SNGLE PORT PEDESTAL KIT 32A, BR 2P 40A
GMEV32BR-DPED	EV DUAL PORT PEDESTAL KIT 32A, (2) BR 2P 40A
Accessories	
GMEV32CNT-BKR	EV CONNECTOR AND CORDSET REPLACEMENT
GMEV32HSTR-BKR	PREMIUM CORDSET HOLSTER

Applications

The Green Motion EV smart breaker charger provides innovative charging solutions, with less components for an easy install. The advanced functionality built into the charger allows customized energy usage and helps save on energy costs. This new level of control and insight at the branch-circuit level provides more efficient way to charge your electric vehicle.

Open APIs, powered by Brightlayer, allow flexibility to integrate with preferred software systems. Our documentation provides detailed instructions on the functionality supported by the APIs to help developers incorporate our solutions into their applications. You can find the API documentation at: Eaton.com/ev-charging

Alternatively, the Eaton Green Motion Driver app provides users access and insights to the charger. Simply connect the charger to your home's Wi-Fi network and start charging your EV. Maximize energy savings with the ability to schedule charging sessions and throttle the rate of charge.

Scan QR code to see API documentation.

Table 3. Specifications

Description	Specification
Catalog number	GMEV32BAB-DC, GMEV32BR-DC, GMEV32BAB-JB, GMEV32BR-JB, GMEV32BR-WB, GMEV32BR-WBPL, GMEV32BR-PED, GMEV32BR-DPED
Footprint 1-pole	2-pole: Takes 4 spaces in a loadcenter/panel board
Electrical input	
Input power	7.7 kW
Input voltage	208/240 Vac
Input (amperage) current	40 A
Electrical output	
Power output	7.7 kW
Output voltage	208/240 Vac
Output amperage	32 A
Connector	SAE J1772
Installation	Hardwire and NEMA 14-50P plug-in for GMEV32BR-WBPL
Cable length (in feet)	25
Safety	UL
Interlocked power protection	Yes
Ground fault protection	20 mA
Overcurrent protection	Yes
Automatic reset after nuisance trip feature	Yes
Randomized restart on power failure (delay before charging resumes after a power failure)	Yes
Frequency rating	60Hz
Ambient operating temperature	–30 °C to +40 °C
Humidity	0% to 90%, noncondensing
kAIC rating	10kA
Warranty	Eaton Selling Policy 25-000, one (1) year from the date of installation of the Product or eighteen (18) months from the date of shipment of the Product, whichever occurs first.
Certifications	UL 489 – molded-case circuit breakers, molded-case switches and circuit breaker enclosures UL 2231 – These requirements cover devices and systems intended for use in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, Article 625, to reduce the risk of electric shock to the user from accessible parts, in grounded or isolated circuits for charging electric vehicles. These circuits are external to or on-board the vehicle. UL 1998 – These requirements apply to non-networked embedded software residing in programmable components performing safety-related functions whose failure is capable of resulting in a risk of fire, electric shock, or injury to persons. UL 2594 (wallbox assembly) – This Standard covers conductive electric vehicle (EV) supply equipment with a primary source voltage of 600 V ac or less, with a frequency of 50 or 60 Hz, and intended to provide ac power to an electric vehicle with an on-board charging unit. CSA C22.2 No. 5 – molded-case circuit breakers, molded-case switches and circuit breaker enclosures SAE J1772 2010 Ed. NFPA 70 Article 625 FCC Compliant, Part 15

Table 4. BlinkUp™ LED indication (for commissioning)

Pre-BlinkUp™ Patterns Description								
No network settings	500ms	500ms						
BlinkUp™ successful	3000ms							

BlinkUp™ Patterns								
Connected to Server	500ms	500ms						
Searching for WiFi network	500ms	500ms	500ms	250ms	250ms	250ms		
Joining WiFi network	500ms	500ms	500ms	250ms	250ms	250ms	250ms	250ms

Please consult the EM Install app for additional troubleshooting information if the BlinkUp pattern is not shown in Table above.

Contact the Eaton Technical Resource Center at
1-877-ETN-CARE (386-2273) for further assistance.

Scan QR code for product information, documents, and more

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