



US 20240235236A1

(19) **United States**

(12) **Patent Application Publication**  
**Jang et al.**

(10) **Pub. No.: US 2024/0235236 A1**

(43) **Pub. Date: Jul. 11, 2024**

(54) **BIDIRECTIONAL CHARGING SYSTEM AND CONTROL METHOD THEREOF**

**B60L 55/00** (2006.01)

**H02J 7/04** (2006.01)

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(52) **U.S. Cl.**

CPC ..... **H02J 7/00712** (2020.01); **B60L 1/006** (2013.01); **B60L 55/00** (2019.02); **H02J 7/00711** (2020.01); **H02J 7/04** (2013.01)

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(57)

#### ABSTRACT

An embodiment method of controlling a bidirectional charging system includes operating a power supply mode to supply alternating current (AC) power to an external device connected to a vehicle, performing real-time current control to limit output current to a preset first current level or less during the power supply mode, determining that the real-time current control is not possible, in response to determining that the real-time current control is not possible, suspending the power supply mode temporarily, and resuming the power supply mode from a zero-crossing point of the AC power existing within a preset reference time from a time point at which the power supply mode is temporarily suspended.

(21) Appl. No.: **18/347,749**

(22) Filed: **Jul. 6, 2023**

(30) **Foreign Application Priority Data**

Jan. 11, 2023 (KR) ..... 10-2023-0003958

#### Publication Classification

(51) **Int. Cl.**

**H02J 7/00** (2006.01)

**B60L 1/00** (2006.01)

