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MIURA et al.(10) **Pub. No.: US 2023/0230788 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **RELAY CONTROL DEVICE AND METHOD
OF CONTROLLING RELAY CONTROL
DEVICE****Publication Classification**(51) **Int. Cl.****H01H 47/00** (2006.01)**G01R 31/327** (2006.01)(52) **U.S. Cl.****CPC** **H01H 47/002** (2013.01); **G01R 31/328**(2013.01); **H01H 2047/003** (2013.01)(71) Applicant: **Hitachi Astemo, Ltd.**, Hitachinaka-shi,
Ibaraki (JP)(72) Inventors: **Hikaru MIURA**, Hitachinaka-shi (JP);
Tatsumi YAMAUCHI, Hitachinaka-shi
(JP); **Mutsumi KIKUCHI**,
Hitachinaka-shi (JP)(73) Assignee: **Hitachi Astemo, Ltd.**, Hitachinaka-shi,
Ibaraki (JP)(21) Appl. No.: **18/009,432**(22) PCT Filed: **Feb. 5, 2021**(86) PCT No.: **PCT/JP2021/004265**

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(57) **ABSTRACT**

In a case where a load current flows in an energized state where a power supply is connected to a load, it is assumed that a measured voltage fluctuates due to a voltage drop caused by contact resistance of a relay contact, and thus the relay state cannot be accurately diagnosed. A relay control device that controls a relay connected between a secondary battery and a load device calculates, in a failure diagnosis during energization with the relay being closed, a contact resistance value of the relay based on a voltage applied to the relay and a current flowing through the secondary battery, and determines a first threshold set as a variable value in accordance with a temperature change amount of the relay and compares the calculated contact resistance value with the first threshold to diagnose a failure of the relay.

