

(19) United States

(12) Patent Application Publication LEE et al.

(54) POWER CONVERSION DEVICE HAVING TEMPERATURE DETERMINATION **FUNCTION**

(71) Applicant: **ELEMENTS PERFORMANCE** TECHNOLOGY INC., KAOHSIUNG

CITY (TW)

(72) Inventors: **JERRYSON LEE**, KAOHSIUNG

CITY (TW); Ethan Lee, KAOHSIUNG CITY (TW); Yu-Jia Huang,

KAOHSIUNG CITY (TW); KUO-SUNG HUANG, KAOHSIUNG

CITY (TW)

(21) Appl. No.: 18/109,912

Feb. 15, 2023 (22) Filed:

Prior Publication Data

(15) Correction of US 2024/0138087 A1 Apr. 25, 2024 See (30) Foreign Application Priority Data.

(65) US 2024/0138087 A1 Apr. 25, 2024

Jul. 11, 2024 (48) **Pub. Date:** CORRECTED PUBLICATION

(10) Pub. No.: US 2024/0237253 A9

(30)Foreign Application Priority Data

Oct. 21, 2022 (TW) 111139966

Publication Classification

(51) Int. Cl.

H05K 7/14 (2006.01) (2006.01)

H05B 45/37

(52) U.S. Cl. CPC H05K 7/14322 (2022.08); H05B 45/37

(2020.01)

(57)ABSTRACT

A power conversion device having a temperature determination function is provided. The power conversion device is disposed on a light fixture and includes a housing, a power converter, and at least one temperature determination component. The power converter and the temperature determination component are disposed within the housing, and the temperature determination component is a temperature fuse. When an ambient temperature of the power converter reaches a preset temperature, the temperature determination component melts to indicate that the power converter is used under the abnormal ambient temperature. Accordingly, the ambient temperature of the power converter can be determined to be abnormal.

