



US 20220377847A1

(19) **United States**(12) **Patent Application Publication**  
**Gogmos et al.**(10) **Pub. No.: US 2022/0377847 A1**(43) **Pub. Date: Nov. 24, 2022**(54) **METHOD FOR MANAGING HEAT, IN PARTICULAR FOR A MOTOR VEHICLE, AND ASSOCIATED CONTROL UNIT****Publication Classification**(51) **Int. Cl.**  
**H05B 1/02** (2006.01)(52) **U.S. Cl.**  
CPC ..... **H05B 1/0244** (2013.01); **H05B 1/0236** (2013.01); **H05B 2203/007** (2013.01)(71) Applicant: **Valeo Systemes Thermiques, Le Mesnil Saint-Denis (FR)**(72) Inventors: **Erwan Gogmos, Le Mesnil Saint-Denis (FR); Bertrand Puzenat, Le Mesnil Saint-Denis (FR)**(73) Assignee: **Valeo Systemes Thermiques, Le Mesnil Saint-Denis (FR)**(21) Appl. No.: **17/765,154**(22) PCT Filed: **Sep. 28, 2020**(86) PCT No.: **PCT/FR2020/051688**

§ 371 (c)(1),

(2) Date: **Mar. 30, 2022**(30) **Foreign Application Priority Data**

Oct. 1, 2019 (FR) ..... 1910891

**ABSTRACT**

The invention relates to a method for managing heat in the event of detecting overheating of an electrical heating device, in particular for a motor vehicle, comprising a plurality of resistive elements configured to be supplied with electric power using a control signal by pulse width modulation according to a setpoint. According to the invention, the method comprises the following steps: activating a first phase (P1) of gradual adjustment of the setpoint in a first direction of progression, and repeating the first phase (P1) of adjustment until the recorded duty cycle of the control signal by pulse width modulation (PWM\_(sub)system) exceeds a determined detection threshold value (PWM\_(sub)system\_lim\_i), and if not, —activating a second phase (P2) of adjustment of the setpoint in a second direction of progression opposite the direction of progression in the first adjustment phase (P1). The invention also relates to a control unit for implementing such a method.

