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(54) **ELECTRIC DRIVE VEHICLE CONTROL SYSTEM**

B60W 30/1888; B60L 3/00; B60L 3/0092; B60L 11/1803; B60L 2220/44; Y02T 10/646; Y02T 10/648; Y02T 10/70; Y02T 10/7005; Y02T 10/7258; Y02T 90/16; H04L 12/403; Y10S 903/902; H02P 5/68

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See application file for complete search history.

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 134 days.

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(21) Appl. No.: **14/500,474**

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(65) **Prior Publication Data**

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Related U.S. Application Data

Van-Tung Phan, Hong-Hee Lee, "Dual Three-Phase Inverter Using a Single Processor to Drive Two Motors in Electric Vehicle Application s", Digital Object Identifier: 10,1109/IFOST.2006.312237, Publication Year: 2006, p. 24-28.

(63) Continuation of application No. 13/561,414, filed on Jul. 30, 2012, now Pat. No. 8,849,490, which is a continuation of application No. 12/209,074, filed on Sep. 11, 2008, now Pat. No. 8,234,026.

(Continued)

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Primary Examiner — Tuan C. To

(51) **Int. Cl.**
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(57) **ABSTRACT**

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CPC **B60W 30/1886** (2013.01); **B60L 3/00** (2013.01); **B60L 3/0092** (2013.01);
(Continued)

Electronic control systems and related control methods for controlling electric drive motors for propelling a vehicle and electric auxiliary motors for performing work. The apparatus is shown in use with a vehicle that includes a mowing deck. Features of the control systems allow for safe and efficient use of the vehicle. These features include a power take-off timeout, automatic fail-safe brake (parking), and customized drive characteristics.

(58) **Field of Classification Search**
CPC B60W 30/1886; B60W 10/08; B60W 10/184; B60W 10/30; B60W 30/18127;

20 Claims, 4 Drawing Sheets

