

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
28 July 2022 (28.07.2022)



(10) International Publication Number
WO 2022/157145 A1

(51) International Patent Classification:

B60L 1/00 (2006.01) *B60L 7/10* (2006.01)
B60L 5/00 (2006.01) *B60L 50/53* (2019.01)

(21) International Application Number:

PCT/EP2022/051008

(22) International Filing Date:

18 January 2022 (18.01.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2100956.8 25 January 2021 (25.01.2021) GB

(71) Applicant: **BOMBARDIER TRANSPORTATION
GMBH** [DE/DE]; Eichhornstraße 3, 10785 Berlin (DE).

(72) Inventor: **PALMISANO, Domenico**; 11 chemin des Gan-
telets, 59700 Marcq en Baroeul (FR).

(74) Agent: **ZIMMERMANN & PARTNER PATENTAN-
WÄLTE MBB**; Josephsplatzstr. 15, 80331 München (DE).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN,
KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO,
NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW,
SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(54) Title: METHOD FOR MANAGING POWER CONSUMPTION OF A RAILWAY VEHICLE, AND RAILWAY VEHICLE
WITH IMPROVED POWER CONSUMPTION MANAGEMENT

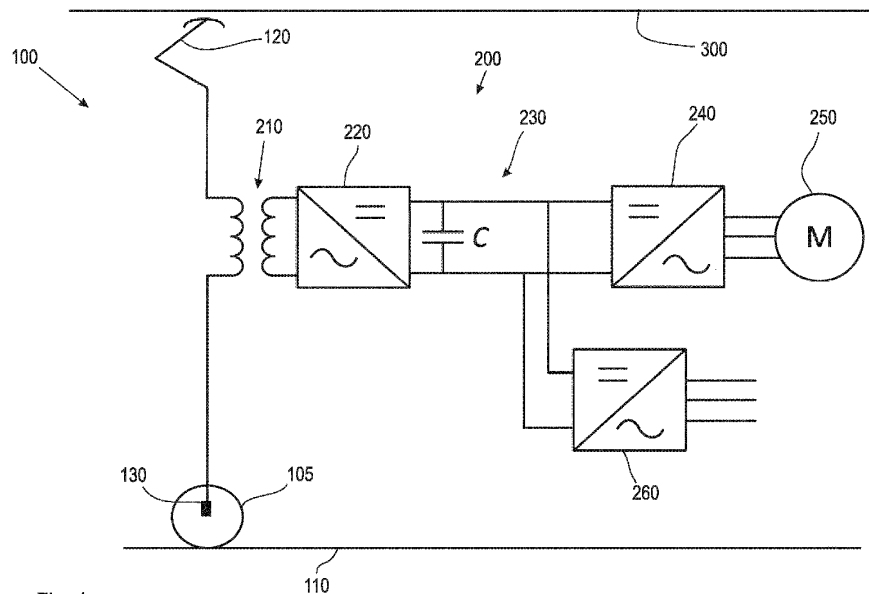


Fig. 1

(57) Abstract: A method for managing power consumption of a railway vehicle is provided. The power consumption of the railway vehicle is managed by a central control unit of the railway vehicle. The central control unit receives information representing an amount of electrical traction power required for traction or generated by electrodynamic braking based on a traction demand set by the driver of the railway vehicle. The central control unit additionally receives information representing an amount of electrical auxiliary power demanded by auxiliary devices from control units of the respective auxiliary devices. The total available electrical power, which can be provided by the energy supply line for the railway vehicle, is determined. The central control unit prioritizes operation of the auxiliary devices based on the total available electrical power and the electrical traction power required for traction to selectively reduce

WO 2022/157145 A1

[Continued on next page]

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

consumption of electrical energy by all or selected auxiliary devices if a sum of the electrical traction power required for traction and the electrical auxiliary power demanded by auxiliary devices exceeds the total available electrical power.