

Title (en)

TRANSFORMERLESS SUPPLY CIRCUIT FOR RAIL VEHICLES

Title (de)

TRANSFORMATORLOSE EINSPEISESCHALTUNG FÜR BAHNFAHRZEUGE

Title (fr)

CIRCUIT D'INJECTION SANS TRANSFORMATEUR POUR WAGONS DE CHEMIN DE FER

Publication

**EP 1154910 A1 20011121 (DE)**

Application

**EP 00912374 A 20000214**

Priority

- DE 0000419 W 20000214
- DE 19908495 A 19990226

Abstract (en)

[origin: DE19908495A1] The invention relates to a transformerless supply circuit, especially for rail vehicles. According to the invention, a plurality of line-side converters (1, 2, 3) is arranged which each have a line-side four-quadrant controller (11, 21, 31), an intermediate circuit condenser (12, 22, 32) connected in parallel thereto and a motor-side four-quadrant controller (13, 23, 33). Said line-side four-quadrant controllers (11, 21, 31) can be connected in series. The motor windings (16, 26, 36) of an alternate current generator are each connected directly to the output terminals (P1, P2) of a motor-side four-quadrant controller (13, 23, 33).

IPC 1-7

**B60L 9/30; B60L 1/12**

IPC 8 full level

**B60L 1/12** (2006.01); **B60L 9/30** (2006.01)

CPC (source: EP)

**B60L 1/12** (2013.01); **B60L 9/30** (2013.01); **H02M 7/49** (2013.01); **B60L 2200/26** (2013.01); **H02M 1/10** (2013.01)

Citation (search report)

See references of WO 0051839A1

Designated contracting state (EPC)

AT CH DE FR GB IT LI

DOCDB simple family (publication)

**DE 19908495 A1 20000907; DE 19908495 B4 20050512; EP 1154910 A1 20011121; WO 0051839 A1 20000908**

DOCDB simple family (application)

**DE 19908495 A 19990226**; DE 0000419 W 20000214; EP 00912374 A 20000214