

Title (en)

BATTERY BALANCING WITH REDUCED CIRCUIT COMPLEXITY

Title (de)

BATTERIE-BALANCING MIT REDUZIERTEM SCHALTUNGSAUFWAND

Title (fr)

ÉQUILIBRAGE DE BATTERIE À FAIBLE COMPLEXITÉ DE MONTAGE

Publication

**EP 2572429 A2 20130327 (DE)**

Application

**EP 11721015 A 20110511**

Priority

- DE 102010029013 A 20100517
- EP 2011057580 W 20110511

Abstract (en)

[origin: WO2011144508A2] The invention relates to a circuit for a battery which has a number  $n$  of battery cells (10-1,..., 10- $n$ ) which are connected in series between a positive battery terminal (12) and a negative battery terminal (13). The number  $n$  is a natural number greater than 1. Due to the mounting in series of the  $n$  battery cells (10-1,..., 10- $n$ ), a number ( $n-1$ ) of connection points (11 -1,..., 11 - $n-1$ ) are obtained between the  $n$  battery cells (10-1,..., 10- $n$ ). Said circuit comprises a discharge element (30) comprising a first terminal which is connected or can be connected to a first discharge line (14-1) and a second terminal which is connected or can be connected to a second discharge line (14-2). According to the invention, the circuit comprises a number ( $n+1$ ) of switches (20-1,..., 20- $n+1$ ) which can be connected at a first terminal to a respective ( $n-1$ ) connection point (11-1,..., 11- $n-1$ ) or to one of the positive or negative battery terminals (12; 13) and are connected at a second terminal to the first or second discharge line (14-1; 14-2). A positive pole of a respective battery cell (10-1,..., 10- $n$ ) can thus be selectively connected by one of the switches (20-1,..., 20- $n+1$ ) to the first or second discharge line (14-1; 14-2) and a negative pole of the respective battery cell (10-1,..., 10- $n$ ) can be connected by one of the switches (20-1,..., 20- $n+1$ ) to the remaining first or second discharge lines (14-1; 14-2). The invention also relates to a battery with said type of circuit.

IPC 8 full level

**B60L 11/18** (2006.01); **H02J 7/00** (2006.01)

CPC (source: EP US)

**B60L 58/10** (2019.01 - EP US); **B60L 58/22** (2019.01 - EP US); **H02J 7/0016** (2013.01 - EP US); **H02P 31/00** (2013.01 - US); **Y02T 10/70** (2013.01 - EP US)

Citation (search report)

See references of WO 2011144508A2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**DE 102010029013 A1 20111117**; CN 102971932 A 20130313; EP 2572429 A2 20130327; US 2014145651 A1 20140529; WO 2011144508 A2 20111124; WO 2011144508 A3 20121115

DOCDB simple family (application)

**DE 102010029013 A 20100517**; CN 201180024327 A 20110511; EP 11721015 A 20110511; EP 2011057580 W 20110511; US 201113698435 A 20110511