

Title (en)  
TRANSFORMER FOR VEHICLES

Title (de)  
TRANSFORMATOR FÜR FAHRZEUGE

Title (fr)  
TRANSFORMATEUR POUR VÉHICULES

Publication  
**EP 3882935 A4 20211208 (EN)**

Application  
**EP 18940370 A 20181115**

Priority  
JP 2018042266 W 20181115

Abstract (en)  
[origin: EP3882935A1] A vehicle transformer includes a transformer body (110), a cooler (120), and a conservator (140). The transformer body (110) has an iron core, a winding wound around the iron core, and a tank (111) to contain the iron core and the winding that are immersed in refrigerant. The cooler (120) is in communication with an interior of the tank (111), and cools the refrigerant by heat exchange with outside air. The conservator (140) is provided on a ceiling (111c) of the tank (111), and has a metallic bellows (141) filled with the refrigerant. The transformer body (110) and the cooler (120) are arranged side by side on a roof of a vehicle along a traveling direction of the vehicle. The bellows (141) extends and contracts over the ceiling (111c) of the tank (111) in response to a change in volume of the refrigerant. An outer surface of the bellows (141) is exposed and in contact with outside air.

IPC 8 full level  
**H01F 27/14** (2006.01); **B61C 17/00** (2006.01)

CPC (source: EP)  
**B61C 17/04** (2013.01); **H01F 27/14** (2013.01)

Citation (search report)

- [A] EP 3239996 A1 20171101 - MITSUBISHI ELECTRIC CORP [JP]
- [AD] JP 2018037518 A 20180308 - TOSHIBA IND PRODUCTS & SYSTEMS CORP
- [A] WO 2018047327 A1 20180315 - MITSUBISHI ELECTRIC CORP [JP]
- See also references of WO 2020100247A1

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)  
**EP 3882935 A1 20210922; EP 3882935 A4 20211208; EP 3882935 B1 20240710**; JP 6548859 B1 20190724; JP WO2020100247 A1 20210215; WO 2020100247 A1 20200522

DOCDB simple family (application)  
**EP 18940370 A 20181115**; JP 2018042266 W 20181115; JP 2019520467 A 20181115