

Title (en)

Railway sensor including a coreless transformer with high galvanic insulation

Title (de)

Eisenbahnsensor mit einem kernlosen Transformator mit höher galvanischer Trennung

Title (fr)

Capteur ferroviaire à transformateur sans noyau à haute isolation galvanique

Publication

**EP 2348516 B2 20230726 (FR)**

Application

**EP 11151262 A 20110118**

Priority

FR 1050405 A 20100121

Abstract (en)

[origin: EP2348516A1] The transformer (10) has a printed circuit type insulating element (13) and conductive coils (11, 12) positioned in a superposed manner on opposite faces of the insulating element. The conductive coils are in circular, elliptical, square or rectangular shapes. The coils are in a form of flexible or rigid plastic plate. Each coil includes flat metallic winding turns provided with central ends. Electric wires are positioned at a surface of the insulating element. The coils are separated by the insulating element. An independent claim is also included for an electrical apparatus comprising a printed circuit on which electrical components are arranged.

IPC 8 full level

**H01F 30/08** (2006.01); **H01F 5/00** (2006.01); **H01F 27/28** (2006.01); **H01F 38/14** (2006.01)

CPC (source: EP)

**H01F 5/003** (2013.01); **H01F 27/2804** (2013.01); **H01F 30/08** (2013.01); **H01F 2027/2819** (2013.01); **H01F 2038/143** (2013.01)

Citation (opposition)

Opponent :

- US 2008179963 A1 20080731 - FOUQUET JULIE E [US], et al
- US 2006039169 A1 20060223 - CHEN BAOXING [US], et al
- JP H08306540 A 19961122 - MURATA MANUFACTURING CO

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

DOCDB simple family (publication)

**EP 2348516 A1 20110727**; **EP 2348516 B1 20200916**; **EP 2348516 B2 20230726**; FR 2955422 A1 20110722; FR 2955422 B1 20170317

DOCDB simple family (application)

**EP 11151262 A 20110118**; FR 1050405 A 20100121